PREVENTION '93 '94

Federal Programs and Progress

U.S. Department of Health and Human Services

Public Health Service
Office of Disease Prevention and Health Promotion

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Preface

PREVENTION is the key word of the 1990s. As we move towards the next century, prevention will be the cornerstone of our Nation's reformed health care and public health systems. I am therefore especially pleased to present *Prevention '93/'94: Federal Programs and Progress.* It provides a comprehensive review of the Federal Government's prevention activities. We can be proud of the scope of our efforts.

The Department of Health and Human Services has as one of its priorities the prevention of childhood diseases such as measles and mumps through age-appropriate immunizations. It also emphasizes prevention through the Head Start program administered by the Administration on Children and Families. For adolescents, we have the responsibility to communicate the risks of unhealthy behaviors so that they can make choices that will promote a long and healthy life. For adults, we must continue to work to reduce communicable and chronic disease. Our challenge for older adults is to ensure that their long lives are healthy lives. For all age groups, we must work to reduce the terrible toll of violence.

In many Federal agencies, prevention is a priority. The Environmental Protection Agency reports its efforts to prevent pollution at its source.

The Department of Transportation reports that traffic fatalities are at record lows, in part due to the increased use of child safety seats and seatbelts, and reductions in drunk driving.

In the Department of Health and Human Services, estimated 1993 prevention expenditures totalled more than $23 billion. Activities of the Public Health Service were $9.5 billion, of which $4.7 billion was spent on prevention research at the National Institutes of Health. Another $13 billion of prevention expenditures were made by the Health Care Financing Administration for such important prevention programs as the Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) program that provides early detection of childhood disease. The Head Start program and other programs administered by the Administration for Children and Families expended $445 million in direct prevention funding, although their indirect contributions through child development and social welfare are far greater than this figure.

I believe that a healthier America is possible. We need only to set our priorities and devote our resources to the prevention of disease and the promotion of health. I commend this compendium of prevention programs for your use and reading.

Donna E. Shalala
Secretary of Health and Human Services

Foreword

Prevention '93/'94 is the fifth biennial report of the Department of Health and Human Services on the prevention-related activities of the Federal Government. This series of reports, which began with *Prevention '84/'85*, has provided comprehensive listings of the prevention programs of the Department of Health and Human Services: this edition includes the Administration on Aging, the Administration for Children and Families, the Health Care Financing Administration, and the nine agencies of the Public Health Service. In addition, other agencies of the Federal Government report their prevention programs. For example, prevention activities are broadly defined to include environmental programs of the Environmental Protection Agency, the Women, Infants, and Children (WIC) program of the Department of Agriculture, and the Occupational Safety and Health Program of the Department of Labor.

Healthy People 2000: National Health Promotion and Disease Prevention Objectives serves as the framework for *Prevention '93/'94*. The national initiative set forth in *Healthy People 2000* established three overarching goals—increase healthy lifespan, reduce health disparities, achieve access to preventive services—to be achieved by the year 2000. The Nation's

prevention agenda for improvements in public health rests on three categories of preventive action: health promotion, encompassing both healthy behaviors and risk reduction; health protection, addressing screening as well as the physical and social environment; and preventive services, including immunizations, counseling, and other clinical preventive services. Within these three categories of prevention are 21 priority areas, which provide the substance of health promotion and disease prevention strategies. A 22nd priority area addresses improvements in Surveillance and Data Systems necessary for tracking progress of the HEALTHY PEOPLE 2000 objectives.

Chapter 1 of *Prevention '93/'94* highlights model prevention programs for minorities. These programs were nominated by the State HEALTHY PEOPLE 2000 action contacts and the minority health directors of agencies of the Public Health Service.

Chapter 2 provides a snapshot of the health status of all Americans. Trends in mortality rates and the causes of deaths are examined. New tables have been added since *Prevention '91/'92* to illustrate the differences among race and ethnic groups in selected causes of death. Life expectancy by race and gender and years of healthy life by race and ethnicity are provided.

Chapter 3 describes the prevention activities of the Department of Health and Human Services and other Federal departments and agencies.

Chapter 4 displays the expenditures for prevention by the Department of Health and Human Services. Organized by HEALTHY PEOPLE 2000 priority areas, this inventory tracks fiscal year 1992 actual spending and estimated 1993 funding by agency in the Public Health Service and from the Administration for Children and Families and the Health Care Financing Administration. A summary table shows block grant resources.

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Acronyms and Abbreviations

The following list of acronyms and abbreviations is provided as a quick index of selected terms and of Federal agencies, departments, offices, and programs that are mentioned in more than one instance in this publication.

ACF	Administration on Children and Families
ACYF	Administration for Children, Youth, and Families
ADD	Administration on Developmental Disabilities
AFDC	Aid to Families with Dependent Children
AHCPR	Agency for Health Care Policy and Research
AID	U.S. Agency for International Development
AIDS	acquired immunodeficiency syndrome
ANA	Administration for Native Americans
AoA	Administration on Aging
APA	American Psychological Association
APEX/PH	Assessment Protocol for Excellence in Public Health
APHA	American Public Health Association
ASH	Assistant Secretary for Health
ASHED	AIDS School Health Education Database
ASHP	Adolescent and School Health Programs
ASSIST	American Stop Smoking Intervention Study
ASTHO	Association of State and Territorial Health Officials
ATF	Bureau of Alcohol, Tobacco, and Firearms
ATSDR	Agency for Toxic Substances and Disease Registry
AZT	zidovudine
BAC	blood alcohol concentration
BHPr	Bureau of Health Professions
BHRD	Bureau of Health Resources Development

Acronyms and Abbreviations (cont.)

BIA	Bureau of Indian Affairs
BJA	Bureau of Justice Assistance
BJS	Bureau of Justice Statistics
BLSA	Baltimore Longitudinal Study of Aging
BPHC	Bureau of Primary Health Care
BRFSS	Behavioral Risk Factor Surveillance System
C/MHC	community/migrant health center
CARE	Ryan White Comprehensive AIDS Resources Emergency (CARE) Act of 1990
CARES	Comprehensive AIDS Reproductive Health and Education Study
CATCH	Child and Adolescent Trial for Cardiovascular Health
CBER	Center for Biologics Evaluation and Research
CCDBG	Child Care and Development Block Grant
CDBG	Community Development Block Grant
CDC	Centers for Disease Control and Prevention
CDER	Center for Drug Evaluation and Research
CDRH	Center for Devices and Radiological Health
CES	Cooperative Extension System
CF	cystic fibrosis
CFSAN	Center for Food Safety and Applied Nutrition
CHID	Combined Health Information Database
COBRA	Consolidated Omnibus Budget Reconciliation Act of 1985
COMMIT	Community Intervention Trial for Smoking Cessation
CPCD	Cancer Prevention and Control Database
CPSC	Consumer Product Safety Commission
CSAP	Center for Substance Abuse Prevention
CSAT	Center for Substance Abuse Treatment
CSBG	Community Services Block Grant
CSS	Clinical Support Strategy
CVI	Children's Vaccine Initiative
CVM	Center for Veterinary Medicine
DARE	Drug Abuse Resistance Education Program
DFSCA	Drug-Free Schools and Communities Act
DHHS	Department of Health and Human Services
DIRLINE	Directory of Information Resources Online
DOC	Department of Commerce
DOD	Department of Defense
DoE	Department of Education
DOE	Department of Energy
DOI	Department of Interior
DOJ	Department of Justice
DOL	Department of Labor
DOT	Department of Transportation
EAP	employee assistance program
EMS	emergency medical services
EPA	Environmental Protection Agency
EPO	Epidemiology Program Office
EPOCH	Educating Physicians in Occupational Health and the Environment
EPSDT	Early and Periodic Screening, Diagnosis, and Treatment Program
ERG	Emergency Response Guidebook
ETC	Education and Training Center
FAA	Federal Aviation Administration
FACE	Fatality Assessment and Control Evaluation Project
FAS	fetal alcohol syndrome
FDA	Food and Drug Administration
FDIR	Food Distribution Program on Indian Reservations
FEMA	Federal Emergency Management Association
FHWA	Federal Highway Administration
FIC	Fogarty International Center
FNS	Food and Nutrition Service
FQHC	Federally Qualified Health Center
FRA	Federal Railroad Administration
FTC	Federal Trade Commission
FY	fiscal year
GMP	good manufacturing practice
HACCP	Hazard Analysis Critical Control Point
HBCU	Historically Black Colleges and Universities
HBV	hepatitis B virus
HCFA	Health Care Financing Administration
HCV	hepatitis C virus
HDL	high-density lipoprotein cholesterol
HETC	Health Education and Training Center
HIV	human immunodeficiency virus
HMO	health maintenance organization
HNIS	Human Nutrition and Information Service
HRSA	Health Resources and Services Administration
HTPCP	Healthy Tomorrows Partnership for Children Program
HUD	Department of Housing and Urban Development
IDDM	insulin-dependent diabetes mellitus
IHPO	International Health Program Office
IHS	Indian Health Service
IMR	infant mortality rate
INPHO	Information Network for Public Health Officials
IOM	Institute of Medicine
LDL	low-density lipoprotein cholesterol
LIHEAP	Low-Income Home Energy Assistance Program
MCHB	Maternal and Child Health Bureau
MCN	Migrant Clinicians Network
MEDLARS	Medical Literature Analysis and Retrieval System
MEDTEP	Medical Treatment Effectiveness Program
MEHP	Minority Environmental Health Program
MHTS	Minority Health Tracking System
MRI	magnetic resonance imaging
MSHA	Mine Safety and Health Administration
NACAA	National Association of Consumer Agency Administrators
NACHO	National Association of County Health Officials
NAIEP	National AIDS Information and Education Program
NAMCS	National Ambulatory Medical Care Survey
NAPO	National AIDS Program Office
NCAI	National Congress of American Indians
NCADI	National Clearinghouse for Alcohol and Drug Information
NCCAN	National Center on Child Abuse and Neglect
NCCDPHP	National Center for Chronic Disease Prevention and Health Promotion
NCEH	National Center for Environmental Health

Acronyms and Abbreviations (cont.)

NCHGR	National Center for Human Genome Research
NCHS	National Center for Health Statistics
NCI	National Cancer Institute
NCID	National Center for Infectious Diseases
NCIPC	National Center for Injury Prevention and Control
NCJRS	National Criminal Justice Reference Service
NCPIE	National Council on Patient Information and Education
NCPS	National Center for Prevention Services
NCRR	National Center for Research Resources
NCTR	National Center for Toxiological Research
NEI	National Eye Institute
NEISS	National Electronic Injury Surveillance System
NETS	Network of Employers for Traffic Safety
NETSS	National Electronic Telecommunications System for Surveillance
NHANES	National Health and Nutrition Examination Survey
NHDS	National Hospital Discharge Survey
NHEFS	NHANES I Epidemiologic Follow-up Study
NHIC	National Health Information Center
NHIS	National Health Interview Survey
NHLBI	National Heart, Lung, and Blood Institute
NHSC	National Health Service Corps
NHTSA	National Highway Traffic Safety Administration
NIA	National Institute on Aging
NIAAA	National Institute on Alcohol Abuse and Alcoholism
NIAID	National Institute of Allergy and Infectious Diseases
NIAMS	National Institute of Arthritis and Musculoskeletal and Skin Diseases
NICHD	National Institute of Child Health and Human Development
NIDA	National Institute on Drug Abuse
NIDCD	National Institute on Deafness and Other Communication Disorders
NIDDK	National Institute of Diabetes and Digestive and Kidney Diseases
NIDDM	noninsulin-dependent diabetes mellitus
NIDR	National Institute of Dental Research
NIDRR	National Institute on Disability and Rehabilitation Research
NIEHS	National Institute of Environmental Health Sciences
NIGMS	National Institute of General Medical Sciences
NIH	National Institutes of Health
NIJ	National Institute of Justice
NIMH	National Institute of Mental Health
NINDS	National Institute of Neurological Disorders and Stroke
NINR	National Institute of Nursing Research
NIOSH	National Institute for Occupational Safety and Health
NIP	National Immunization Plan or National Inspection Plan
NIS	Newly Independent States
NLEA	Nutrition Labeling and Education Act of 1990
NLM	National Library of Medicine
NLTN	National Laboratory Training Network
NMFS	National Marine Fisheries Service
NMIHS	National Maternal and Infant Health Survey
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NSFG	National Survey of Family Growth
NSLP	National School Lunch Program
NVAC	National Vaccine Advisory Committee
NVPO	National Vaccine Program Office
NVSS	National Vital Statistics System
OASH	Office of the Assistant Secretary for Health
OBRA	Omnibus Budget Reconciliation Act
OCS	Office of Community Services
OCSE	Office of Child Support Enforcement
ODPHP	Office of Disease Prevention and Health Promotion
OFA	Office of Family Assistance
OIH	Office of International Health
OJJDP	Office for Juvenile Justice and Delinquency Prevention
OJP	Office of Justice Programs
OMH	Office of Minority Health
OMHRC	Office of Minority Health Resource Center
OPA	Office of Population Affairs
ORHP	Office of Rural Health Policy
ORR	Office of Refugee Resettlement
OSEP	Office of Special Education Programs
OSH	Office on Smoking and Health
OSHA	Occupational Safety and Health Administration
OVC	Office for Victims of Crime
OWH	Office on Women's Health
PAHO	Pan American Health Organization
PATCH	Planned Approach to Community Health Program
PCMR	President's Committee on Mental Retardation
PCPFS	President's Council on Physical Fitness and Sports
PHHS	Preventive Health and Health Services
PHPPO	Public Health Practice Program Office
PHS	Public Health Service
PIRC	Preventive Intervention Research Center
PPHA	Pennsylvania Public Health Association
PRB	Prevention Research Branch
PRC	Prevention Research Center
PSC	prenatal smoking cessation
RADAR	Regional Alcohol Drug Awareness Resource Network
RDS	respiratory distress syndrome
REAP	Roof Evaluation-Accident Prevention
RSPA	Research and Special Programs Administration
SAMHSA	Substance Abuse and Mental Health Services Administration
SEA	State education agency
SENIC	Study on the Efficacy of Nosocomial Infection Control
SENSOR	Sentinel Event Notification System for Occupational Risks
SIDS	sudden infant death syndrome
SLE	systemic lupus erythematosus
SMZ	sulfamethazine

Acronyms and Abbreviations (cont.)

SPRANS	Special Projects of Regional and National Significance
SSBG	Social Services Block Grant
STD	sexually transmitted disease
TAPS	Teenage Attitudes and Practices Survey
TEAM	Techniques for Effective Alcohol Management
TRI	Toxic Release Inventory
TSS	toxic shock syndrome
UK	United Kingdom
USAID	U.S. Agency for International Development
USDA	U.S. Department of Agriculture
USFA	U.S. Fire Administration
UV	ultraviolet
VA	Department of Veterans Affairs
VAP	Vaccine Action Program
VHA	Veterans Health Administration
WHO	World Health Organization
WIC	Special Supplemental Food Program for Women, Infants, and Children
YPLL	years of potential life lost
YRBS	Youth Risk Behavior Survey

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Chapter 3 and the resource inventories of Chapter 4 were prepared by the HEALTHY PEOPLE 2000 Steering Committee members and HEALTHY PEOPLE 2000 work group coordinators. The staff of the Office of Disease Prevention and Health Promotion provided overall direction for this report.

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CHAPTER 1

HEALTHY PEOPLE 2000 IN MINORITY COMMUNITIES

HEALTHY PEOPLE 2000 set the Nation's prevention agenda for improving the health of all Americans. It challenged us to focus on disease prevention and health promotion efforts. HEALTHY PEOPLE 2000 committed the Nation to attain three broad goals:

- Increase the span of healthy life for Americans,
- Reduce health disparities among Americans, and
- Achieve access to preventive services for all Americans.

The second goal, which recognizes that the health of a Nation is measured by the status of *all* its people, is the focus of this first chapter of *Prevention '93/'94*.

The disturbing inequalities in health status among diverse racial and ethnic population groups were recognized in the analysis of data from tracking the 1990 objectives. From the 1990 process, we learned that the provision of preventive services "did not translate proportionately into achievements among the health status objectives...[for] all groups equally."[1] There

[1] J. Michael McGinnis, M.D., et. al., Health Progress in the United States, Results of the 1990 Objectives for the Nation, *Journal of the American Medical Association*, November 11, 1992.

are continuing disparities in health indicators for various population groups. For example, blacks at birth in 1990 did not share the same life expectancy as whites and Hispanics. Premature deaths from heart disease, stroke, cancer, diabetes, and violent injury decrease black life expectancy. For American Indians and Alaska Natives, diabetes, cirrhosis, and injuries are the leading causes of premature death. For Hispanics, deaths from diabetes, homicide, and HIV infection are higher. One contributing factor to the differences in life expectancy could be the continuing gap in access to health insurance. While 14.5 percent of whites lacked coverage, more than 20 percent of minority populations were without health insurance coverage. As a Nation, we need to recognize where disparities exist and to take effective steps to reduce and eventually eliminate those differences through prevention.

In fact, the "second goal addresses the greatest failures of the 1990 objectives—those for improving the health of historically disadvantaged populations."[2] Therefore, as the 300 HEALTHY PEOPLE 2000 objectives were developed, consideration was given to setting specific targets for population groups known to be at higher risk for death, disease, injury, or disability. Altogether, some 223 specific population targets were set for American Indians and Alaskan Natives, Asian and Pacific Islander Americans, African Americans, Hispanic Americans, people with disabilities, and people with low incomes.

The most current data reported in the first round of HEALTHY PEOPLE 2000 Progress Reviews and *Health, United States, 1993* and *Healthy People 2000 Review, 1993* indicate that we are making progress toward many of the specific population targets. In order to achieve all of the year 2000 targets for specific population groups, prevention activities must focus on the health concerns specific to minority groups. The Federal Government cannot act alone. State and local governments, as well as businesses and community organizations, need to be involved in assessing the health status of their residents, undertaking outreach activities, developing culturally sensitive education materials, and implementing quality prevention programs.

The Public Health Service (PHS) is conducting HEALTHY PEOPLE 2000 specific population cross-cutting progress reviews that assess the efforts of PHS agencies. At these sessions, the current health status of a specific population group is presented, with discussion focusing on strategies to improve health and alleviate barriers in achieving certain HEALTHY PEOPLE 2000 objectives. Overcoming these barriers requires solutions that include, but are not limited to, developing supplements to national data sources through State data systems and model standards approaches. It also demands the continued commitment of States, communities, and the PHS. HEALTHY PEOPLE 2000 objective 8.11 calls for us to "increase to at least 50 percent the proportion of counties that have established culturally and linguistically appropriate community health promotion programs for racial and ethnic minority populations."

To learn about many prevention activities that are underway throughout the country, the HEALTHY PEOPLE 2000 PHS Steering Committee and State Action contacts identified model programs. These initiatives aim to reduce health disparities among different racial and ethnic populations. The representative programs highlighted here are funded by PHS agencies, State health departments, and local sources of support.

[2] Ibid.

AFRICAN AMERICANS

The **Comprehensive Health Improvement Project (CHIP)** in **Martin County, Florida,** focuses on reducing morbidity and mortality rates from chronic diseases (heart disease, stroke, cancer, diabetes, and chronic lung disorders) in African American women. First, an advisory committee of African American women was formed by CHIP. With the committee's assistance, CHIP sponsored two community health fairs offering health screenings, risk appraisals, and counseling; conducted a health needs assessment survey of African American women in the county; asked each black church to incorporate health messages in Sunday church bulletins; offered quarterly smoking cessation classes and monthly weight loss, cholesterol, and hypertension classes; and obtained, with the help of the American Cancer Society, free mammograms for low-income women. Contact: Cathy Cottle, Health and Rehabilitation Services, Martin County Public Health Unit, 620 South Dixie Highway, Stuart, FL 34994. Telephone: (407) 221-4090.

In 1986, the **Indiana** State Department of Health, in collaboration with Indiana Black Expo, began the **Black and Minority Health Fair.** Participation and funding for this event come from a variety of sources, including health care providers, corporations, and media. In 1993, over 48 different booths offered screenings, educational materials, counseling, and referrals at this 5-day health event, and over 6,200 screenings were completed. A stage was also incorporated into the Health Fair, and over 20 participants entertained and educated the crowd on health-related issues. Contact: Cathy Archey, Office for Special Populations, Indiana State Department of Health, P.O. Box 1964, Indianapolis, IN 46206-1964. Telephone: (317) 633-0607.

Project LifeBeat, coordinated by the **Wayne County** Health Department in **Michigan,** seeks to reduce cardiovascular disease and stroke in the African American community. Sixty-two Detroit and Wayne County community organizations formed a coalition to undertake community outreach, risk appraisal/screening, health promotion/risk reduction, nutrition/weight control, and medical referral. Approximately 5,500 people were screened, 64 percent at a community site and 36 percent at worksites. The majority of people (68 percent) had learned about the program by word of mouth. Beliefs and attitudes about risks were surveyed. Most respondents knew about the risks and were willing to work at reducing the risk factors. Contact: Cynthia Taueg, R.N., M.P.H., Health Officer, Wayne County Health Department, 2501 S. Merriman Road, Westland, MI 48185. Telephone: (313) 467-3300.

In **Cleveland, Ohio**, the Mt. Sinai Medical Center collaborated with inner city churches to create the **Mt. Sinai Church Hypertension Control Program**, which serves predominantly black, low-income individuals. Selected church members were trained in offering blood pressure monitoring and cardiovascular risk-reduction information. Hypertension programs also were established within the participating black

churches. As result of this program, blood pressure control rates of around 78 percent have been achieved consistently, up from a baseline of approximately 39 percent. Contact: Joyce Lee, R.N., M.A. Mt. Sinai Medical Center, One Mt. Sinai Drive, Cleveland, OH 44106. Telephone: (216) 421-4280.

The **REACH Futures Project** located in **Chicago, Illinois,** is an innovative service initiative designed to prevent maternal and infant mortality and morbidity in a low-income, urban community. Extensively trained community residents, under the supervision of maternal and child nurses, provide home visits to mothers with infants to promote and maintain health, provide culturally sensitive parenting education, and assist families in accessing support and social services. The trained residents are employed by this community-based university program and interact with families in the community, hospitals, and primary care environments. The model is described as one that empowers both the workers and the families they serve. Contact: Cynthia Barnes-Boyd, Ph.D., 2045 West Washington Boulevard, Chicago, IL 60612. Telephone: (312) 413-7810.

The **Positive Emotional Capacity Enhancement Training Project** sponsored by the **Ohio** Commission on Minority Health addresses for African American youth their disproportionate risk for morbidity and early mortality resulting from violence. Culturally specific violence prevention projects have demonstrated success in pilot initiatives offering education and skills development to modify the attitudes and behavior of potential disputants. Contact: Cheryl Boyce, Executive Director, 77 South High Street, Suite 745, Columbus, OH 43266-0377. Telephone: (614) 466-4000.

The **Newark** Community Health Center in **New Jersey** started an **Obesity Program or Feeling Good About Yourself Club** due to the high incidence of obesity in the community (80 percent of African Americans/20 percent of Hispanic Americans). The support group was designed to assist obese patients in developing self-esteem and weight control and to provide health education. Contact: Dr. Anita Vaughan, Medical Director, 101 Ludlow Street, Newark, NJ 07114. Telephone: (201) 565-0355.

Health Is Life is a demonstration health promotion and disease prevention program of the National Urban League. Community-based organizations use local resources to enhance the knowledge of low-income and minority consumers, particularly African Americans, about the importance of diet as it relates to health. The program uses low- literacy and culturally sensitive materials and tailored dissemination techniques that focus on diet, health, and the comprehension of food labels. Contact: Monique Nero, 500 East 62nd Street, New York, NY 10502. Telephone: (212) 310-9107.

The **Missouri Gateway Geriatric Education Center** is involved in several projects serving the health needs of the elderly. One project, in collaboration with the Housing Authority of **East St. Louis**, trains medical students to carry out geriatric assessments for older African Americans. This center is one of a network of geriatric education centers that develop new curricula, training materials, and clinical training sites. Contact: John Morley, M.D., 1402 South Grant Boulevard, Room M238, St. Louis, MO 63104. Telephone: (314) 577-8462.

The **SIMBA** program **(Saturday Institute for Manhood, Brotherhood Actualization)** addresses the problem of the high death rate among young African-American males due to violence and health-related issues. Based in **Atlanta, Georgia,** the program provides incarcerated youth aged 9 to 17 with a variety of Saturday classes in health education, violence prevention, stress management, African American history, vocational development, and aesthetic arts (photography, silk screening, drama, music, and video development). SIMBA also provides follow-up services in job placement after these youth are released. SIMBA is a consortium consisting of the Wholistic Stress Control Institute (WSCI), the Lorenzo Benn Youth Development Center, and 10 other community organizations. Contact: Jennie C. Trotter, Executive Director, WSCI, 3480 Greenbriar Parkway, Suite 310-B, Atlanta, GA 30331 or P.O. Box 42481, Atlanta, GA 30331. Telephone: (404) 344-2021.

The **Southwest Coalition With Youth** and **Westside Health Services** are developing a community health outreach model to reach minority males, especially African American males aged 15 to 19, in the southwest **Rochester, New York**, area. This program employs at-risk African American youth as health outreach workers in the community. Health education and promotion activities take place at community events, housing projects, and soup kitchens, as well as through home visits. Contact: Jerald Noble, Project Coordinator, Westside Health Services Inc., 480 Genesee Street, Rochester, NY 14611. Telephone: (716) 436-3040.

West Dallas Community Centers, Inc., operates a primary alcohol and other drug abuse prevention demonstration project that targets 50 African American high-risk youth aged 6 to 12. The program uses an innovative approach called the Rites of Passage. The Rites of Passage curriculum includes units on family histories of the African people, sex education, spirituality, personal hygiene, housekeeping and finances, assertiveness and leadership, values clarification, future planning, time management, art and dance, street survival, and physical conditioning. The program began in September 1990 and operates from five community centers in **West Dallas, Texas,** neighborhoods. The Rites of Passage curriculum reduces the risk for alcohol and other drug use by improving self-concept, cultural competence, and academic performance. Contact: Zachary S. Thompson, West Dallas Community Centers, Rites of Passage Program, 8200 Brookriver Drive, Suite N-704, Dallas, TX 75247. Telephone: (214) 630-0006.

AMERICAN INDIANS AND ALASKA NATIVES

The Minnesota Department of Health Diabetes Control Program has funded programs established within primary care organizations to delay or prevent the onset of diabetes complications. In the five funded clinics, American Indians make up about 40 percent of those served. One of the grant recipients, the **Indian Health Board of Minneapolis, Minnesota,** is piloting a new strategy combining outreach with a computerized tracking and recall system. An increase in the number of people receiving eye and foot examinations has been found in initial evaluations of this strategy. Contact: Cindy Clark, Diabetes Unit, Minneapolis Department of Health, 717

Southeast Delaware Street, P.O. Box 9441, Minneapolis, MN 55440-9441. Telephone: (612) 623-5287.

In **Anchorage, Alaska,** the Rural Alaska Community Action Program, Inc. (RurAL CAP), administers a project based in Fort Yukon, Alaska, that teaches Athabascan youth aged 7 to 18 traditional subsistence skills such as sewing, trapping, hunting, fishing, and food preparation. This **Fort Yukon Youth Survivors' Project** also provides opportunities for community members to participate in native cultural activities and sponsors workshops and training events to address alcohol and drug use. Following its completion and evaluation, this model high-risk youth demonstration project may be replicated in more than 300 Alaska Native villages. Contacts: Nancy James, Project Coordinator, Fort Yukon Youth Survivors, P.O. Box 7, Fort Yukon, AK 99740, Telephone: (907) 662-2705; and David Hardenbergh, Program Director, RurAL CAP Prevention Program, P.O. Box 20098, Anchorage, AK 99520, Telephone: (907) 279-2511.

In **North Dakota,** the **Three Tribes Program** incorporates traditions and beliefs of the Native American community into the program's cancer prevention and intervention activities. This program of the Three Tribes Health Services and the State health department has established a unit of the American Cancer Society on a reservation, conducted a 1992 tribal employee smoking cessation program, and formed the group STOMP (Stop Tobacco Opportunities for Minors). Contacts: Barbara Burgum Lee, Cancer Program Coordinator, North Dakota State Department of Health, 600 East Boulevard Avenue, Bismarck, ND 58505, Telephone: (701) 224-2333; and Susan Paulson, M.P.H., Health Educator, Minne-Tohe Health Center, Highway 23 and Four Bears, P.O. Box 400, New Town, ND 58763, Telephone: (701) 627-3450.

Project Nammy, located on the **Crow Creek Indian Reservation** in **South Dakota,** provides mammography screening to reservation women aged 55 and older. In the first year of the pilot program, 75 percent of the targeted women received mammograms. General education about a variety of health issues is also provided. Subjects include pap smears, rectal examinations, diabetes screening, and adult immunizations. Contact: Margaret Brown, B.S., R.N., P.O. Box 200, Fort Thompson, SD 57339. Telephone: (605) 245-2285.

In **Wagner, South Dakota,** efforts have been made through the Wagner Service Unit Diabetic Program to address the high level of Type II diabetes mellitus in the **Yankton Sioux Tribe**. A multi-disciplinary team, consisting of dietitians, nurse educators, and physicians, regularly provides outpatients of all ages with preventive care such as pelvic, breast, foot, and rectal examinations. Contact: Colleen Permann, R.N., C.D.E., Wagner Indian Health Service Hospital, P.O. Box 490, Wagner, SD 57380. Telephone: (605) 384-3894.

The **Arizona Disease Prevention Center**, located at the University of Arizona Health Sciences Center in **Tuscon**, targets Mexican American and Yaqui Indian women in its activities to address breast and cervical cancers and cardiovascular disease. The center's goals are to develop, evaluate, and disseminate health assessments and interventions related to increasing screening rates for these conditions in women aged 40 and older and to add to the research base for health promotion and disease prevention by investigating the cultural beliefs, attitudes, and knowledge about health and chronic disease in these populations. A unique feature of the program is that the interventions are delivered by trained peer health educators. Contact: Thomas Edward Moon, Ph.D., Principal Investigator, University of Arizona Health Sciences Center, 1501 North Campbell Avenue, Tucson, AZ 85724. Telephone: (602) 626-4010.

The **Window Rock and Chinle Driving Under the Influence (DUI) Project** in **Arizona** targets third-time DUI offenders with interventions such as family counseling and confrontation services. At the Chinle project, a traditional tribal Peacemaker is also employed. At the conclusion of this project, an analysis will be done to assess which method of intervention is the best deterrent to DUI crimes. Contact: LaVerne D. Yazzie, Executive Director, Division of Health, P.O. Box 709, Window Rock, AZ 86515. Telephone: (602) 871-6919.

The **Family-Centered, Coordinated Early Intervention Systems for Navajo Children and Families Project** of **Utah State University** works to improve the health and developmental status of young Navajo children with special health care needs and to prevent infant mortality and morbidity in three locations in the Navajo Nation through the establishment of family health and development centers and a parent-to-parent network. Contact: Richard Roberts, Ph.D., Co-Director, Utah State University, Logan, UT 84322-6580. Telephone: (801) 750-3346.

The **National Native American AIDS Prevention Center** administers community-based programs in **Anchorage, Honolulu, Kansas City, Oklahoma City, Phoenix, Seattle, Pembroke (North Carolina),** and **Pauma Valley (California)**. These programs offer case management and client advocacy services to asymptomatic and symptomatic Native Americans with HIV. Services include medical, psychosocial, and practical support. The project's goals are (1) to improve access to services for Native Americans with HIV, (2) to improve their quality of life, and (3) to improve the ability of agencies and local services providers to serve their clients. Contacts: Ron Rowell, National Native American AIDS Prevention Center, 3515 Grand Avenue, Suite #100, Oakland, CA 94610; and Jay Johnson, National Native American AIDS Prevention Center, 205 West 8th Street, Lawrence, KS 66046.

The **Milwaukee Indian Health Center** in **Wisconsin** has developed a program to prevent and reduce infant mortality and birth defects by providing comprehensive care to American Indian women. Care includes risk assessments, prenatal medical and nursing services, nutrition and social services, and parenting and nurturing classes. Contact: William Erwin, Executive Director, 930 North 27th Street, Milwaukee, WI 53208. Telephone: (414) 931-8111.

ASIAN AND PACIFIC ISLANDER AMERICANS

In 1991, **Health Start** began as a prevention partnership among the **Guam** Department of Education, the University of

Guam, and the Department of Public Health and Social Services. That pilot program addressed childhood obesity. The program expanded into an island-wide elementary school project in 1992. Some 900 children have been tested for their knowledge of nutrition and measured for height, weight, and body fat. Parents were informed of the findings and were offered free group counseling. Additionally, the program provided school curriculum modification and teacher and food service worker training. Teachers, counselors, school health nurses, and food service workers were trained in the program. In the 1992-93 school year, the program expanded to all public elementary schools and became known as **Healthy Beginnings**. Contact: Lisa Gemo, R.D., Nutritionist III, Department of Public Health and Social Services, Government of Guam, P.O. Box 2816, Agana, GU 96910. Telephone: (671) 734-4589 ext. 316 and FAX (671) 734-5910

The word AKAMAI is a Hawai'ian word meaning smart. In the context of the **AKAMAI Youth Project**, it stands for Acquiring Knowledge, Awareness, Motivation, and Inspiration. This project works with at-risk youth identified by the police as status offenders, such as runaways, curfew violators, or youth beyond parental control. Twenty-five government and community services organizations collaborate in this partnership. The youth, the majority of whom are Hawai'ian/part Hawai'ian, are offered a variety of services, including family counseling, workshops, and anger management. Topics such as teen pregnancy, sexually transmitted diseases, and alcohol and other drug use are addressed through these services. The goal of the program was to reduce recidivism among runaway youth from 60 percent to 45 percent. Among the initial 600 students participating in this program, the recidivism rate was only 16 percent. Contact: Major David Benson, Honolulu Police Department, 801 South Beretania Street, Honolulu, HI 96813. Telephone: (808) 943-3915.

Another exemplary youth project in **Hawai'i** is **Teen C.A.R.E.**, a school-based substance abuse treatment program located on five public school campuses in O'ahu. At each site, two full-time substance abuse counselors work with students identified as substance abusers, helping students become and remain abstinent from all drug or alcohol use. The success of supporting long-term student abstinence is attributed to the development of trust among the students and school staff. Contact: Bonnie Cordeiro, Teen C.A.R.E. Program Director, 43 Oneawa Street, #204, Kailua, HI 96734. Telephone: (808) 261-4458.

The **Southeast Asian Community Health Needs Assessment Project** surveyed the health and behavioral characteristics of the Hmong and Laotian population residing in **Northeast Detroit, Michigan**. Approximately 500 Hmongs, people of Laotian descent, completed a questionnaire that addressed their feelings about health. Contact: Connie Alfaro, Office of Minority Health, Michigan Department of Public Health, 3423 North Logan/Martin Luther King Jr. Boulevard, P.O. Box 30195, Lansing, MI 48909. Telephone: (517) 335-9079.

The **National Association of Asian American Women (NAPAW)** and the Food and Drug Administration (FDA) conducted two health and nutrition workshops. The first educated women about menopause, and the second looked at the nutrient needs of women, with special attention to the new food label. The workshops were a part of a major conference held on May 19-20, 1993, in **Bethesda, Maryland**, to increase awareness of important health issues for Asian American and Pacific Islander women. Contact: Vivian Kim, P.O. Box 0494, Washington Grove, MD 20880-0494. Telephone: (301) 443-4447.

Chinatown Health Clinic (a.k.a. Chinatown Action for Progress, Inc.) was founded in 1971 to meet the health needs of a growing Chinese community in **New York, New York**. Bilingual and bicultural staff provide primary health care services, including pediatrics, internal medicine, prenatal care, OB/GYN, other medical specialties, pediatrics dental screening, annual flu shot program, and clinical screening programs for hepatitis, intestinal parasites, tuberculosis, and thalassemia. Bilingual health education services include an annual outdoor health fair, a weekly radio program on preventive health, a monthly radio health hotline program, periodic newspaper articles on a variety of health topics, development and dissemination of bilingual health education pamphlets, and on-site/off-site workshops on parenting skills, prenatal and postnatal care, infant care, nutrition, women's health, HIV/AIDS prevention, adolescent sexuality, and family planning. Contact: Harold Lui, Executive Director, 89 Baxter Street, New York, NY 10013. Telephone: (212) 233-5059.

The **International District Community Health Center—Hepatitis B Demonstration** in **Washington** State seeks to improve Asian/Pacific Islanders' understanding of disease prevention measures, including vaccination goals, through community media, community organizations, activities in schools, and physicians serving the Asian community. Contact: Dorothy Wong, International District Community Health Center, 416 Maynird Avenue, South, Seattle, WA 98104. Telephone: (206) 461-3617.

The **Southeast Asian Regional Community Health (SEARCH) Project** addresses the weakened health status among Cambodian, Hmong, Laotian, Vietnamese, and Chinese mothers and their children who are refugees and recent immigrants in **Columbus** and **Toledo, Ohio,** and **Detroit, Michigan**. The general under-utilization of preventive health care is a major concern. The strength of the project is its coordination of community-based expertise and existing services for the provision of culturally appropriate services. SEARCH maximizes its potential through constant community input on the design of services. Contact: Elizabeth Chung, SEARCH Project Director, Ohio Commission on Minority Health, 77 South High Street, Suite 745, Columbus, OH 43266-0377. Telephone: (614) 466-4000.

HISPANIC AMERICANS

The **South Texas Geriatric Education Center (STGEC)** targets 185 counties, both urban and rural, whose populations include large numbers of elderly Mexican Americans. STGEC is also the geriatric training arm for both the South Texas Area Health Education Center and the Health Education Training Centers Alliance of Texas. STGEC provides education in geriatrics and gerontology to faculty and health professionals, including those who treat underserved elders in all

public health service sites. Disease prevention and health promotion projects include (1) an award-winning videotape and handbook in both Spanish and English on oral care of medically compromised elders for nursing assistants and other caregivers, (2) a series of seven video novellas to assist low-literacy Hispanics in managing their diabetes, and (3) an educational intervention directed at physicians who treat Mexican American elders to increase the use of influenza vaccine. Contact: Michele Saunders, D.M.D., M.S., M.P.H., 7703 Floyd Curl Drive, San Antonio, TX 78284-7921. Telephone: (210) 567-3370.

Saint Joseph's Hispanic Services in **Atlanta, Georgia**, provides primary care and health care access assistance to Hispanic families who have recently immigrated to the Atlanta area and have limited English language skills. Services include volunteer-staffed evening primary care clinics, perinatal and general health education, HIV and alcohol risk prevention programs, support groups for abused women, assistance to families of children with disabilities, and coordinated support to health care providers regarding cultural issues affecting the health of Hispanic families. Contact: Sister Barbara Harrington, Saint Joseph's Hispanic Services, 5665 Peachtree Dunwoody Road NE., Atlanta, GA 30342-1701. Telephone: (404) 851-7778.

The **Cuidate Mujer: Prevention and Treatment of Substance Abuse Among High-Risk Hispanic Women** in **Hartford, Connecticut**, is a demonstration initiative of the Hispanic Health Council designed to reduce the number of pregnant Hispanic women engaged in substance abuse and, in turn, to reduce the number of infants with *in utero* exposure to harmful chemical substances. Combining case finding, case management, a culturally targeted self-help group, and client advocacy with prevention education, follow-up, and day treatment, the program offers direct services, education, outreach, and follow-up for up to 300 Hispanic women who are at risk for substance involvement or are already addicted. An original bilingual, bicultural curriculum has been generated. Contact: Elizabeth Toledo, The Cuidate Mujer: Prevention and Treatment of Substance Abuse Among High-Risk Hispanic Women, Hispanic Health Council, 98 Cedar Street, Hartford, CT 06106. Telephone: (203) 527-0856.

El Centro Hispano/The Hispanic Center in **Indianapolis, Indiana**, is a multi-service center that offers various health care services, including a WIC clinic, immunizations, a well-baby clinic, anonymous/confidential HIV testing, and health screenings such as glucose, cholesterol, high blood pressure, and lead poisoning. The Hispanic Center also has an outreach program targeted at Latinos at risk for HIV/AIDS, substance abuse, and sexually transmitted diseases. This program includes HIV/AIDS prevention education presentations, home visits, and a Latino Youth HIV/AIDS Peer Education program. The Hispanic Center also holds an annual health fair, "Feria de la Salud," for the Latino community. The event usually attracts over 250 people. Contact: Maria E. Howard, 617 E. North Street, Indianapolis, IN 46204. Telephone: (317) 636-6551.

Organizacion Civica y Cultural Hispana Americana (O.C.C.H.A.) is a community-based organization in Ohio that focuses on AIDS education. Activities conducted by this program are person-to-person outreach and workshops within the Hispanic community, distribution of information in Spanish and English for youth and adults, and an AIDS education program targeted to Hispanic women through "safer sex" home parties. Contact: Mary Isa Garayua, 10 South Fruit Street, Youngstown, OH 44506. Telephone: (216) 744-1808.

Proyecto de HEPA is aimed at elementary school (fourth-sixth grade) students and their parents in **Puerto Rico**. Children are taught to communicate with their health care provider using elementary rules such as talk, listen, ask questions, learn, and decide what to do in a real situation. The word HEPA stands for heblar escuchar, preguntar, and aprender in Spanish. Students are exposed to patient drug information and health maintenance concepts. The children attend a health care screening. Contact: Dr. Rita Osorio, 289 Winston Churchill Avenue El Seniorial, Rio Piepras, PR. Telephone: (809) 761-3423.

La Familia Sana is a project conducted by La Clinica Del Carino in **Hood River, Oregon**, that promotes pediatric and adult health among Hispanic migrant and seasonal farm workers. Preventive services, innovative health services, and health education are delivered by community health promoters from the community. The project focuses in particular on chemical dependency, adult chronic disease, depression and psychosocial stress, occupational health, and lack of access to health care. Contact: Noel Wiggins, 2690 May Street, P.O. Box 800, Hood River, OR 97031. Telephone: (503) 386-4880.

La Nueva Vida, Inc., had a project named **Comanidad Y Cultura** in **Santa Fe, New Mexico**. This project hopes to reduce the health and social risks of Hispanic males through workshops with at-risk Hispanic males aged 12 to 18. Training and cultural participation through workshops that emphasize the rich New Mexico culture are used as vehicles for intervention. The core management teams consist of an intergenerational network of role models, workshop teachers recruited from the community, and experienced professionals in counseling and community development. The "Compadrazgo Model" has been adapted for the program, and 18- to 24-year-olds become part of the Leadership Training Team. These young adults assume a leadership role for the at-risk 12- to 18-year-olds. Contact: Gary Giron, Executive Director, P.O. Box 5739, Santa Fe, NM 87502-5739. Telephone: (505) 983-9521.

Para Vivir Bien is conducted by the National Coalition of Hispanic Health and Human Services Organizations (COSSMHO) to design nutrition education materials based on the *Dietary Guidelines for Americans*. The goal of this program is to raise awareness of nutrition in the Hispanic community through culturally appropriate information. Contact: Carlos Vegas, 1501 16th Street NW., Washington, DC 20036. Telephone: (202) 387-5000.

Escuelita Substance Abuse Primary Prevention (EPP) in **San Antonio, Texas**, provides services to predominantly low-income, high-risk Mexican American children aged 3 to 5. The goal of the program is to reduce alcohol and drug use risk factors and enhance resiliency factors. In a full-day education/treatment program, workers try to address early signs of emotional, behavioral, and learning problems, as well as monitor

children for signs of abuse and neglect. There is a mandatory parenting program for all families involved in this intervention program. Contact: Dr. Fred Cardenas, Mexican American Unity Council, Inc., 2300 West Commerce Street, Suite 300, San Antonio, TX 78207. Telephone: (512) 978-0503.

The Monterey County Department of Health's **Violent Injury Prevention Project** focuses on youth in **Salinas, California**. The target population is Latino and other vulnerable youth under 18 years of age. The project has been instrumental in convening a broad-based Violent Injury Prevention Program Coordinating Council. Other efforts include a baseline survey to assess students' attitudes and beliefs about violence and the prevalence of violent actions and weapons; a successful ongoing media campaign; a training-for-trainers program for probation officers; and a trigger-lock coupon program. For this intervention, local gun stores agreed to offer a 25-percent discount on trigger locks. Bright yellow coupon pads were printed and distributed at retail outlets that sell guns, as well as at medical offices, community health fairs, and Women, Infant, and Children (WIC) nutrition program sites. In-service training on patient education techniques and audio-visual materials were also provided to health professionals. Pre- and post-tests were developed for use in clinic settings, and coupons were color coded to determine point of distribution and redemption patterns. Preliminary evaluation shows this to be an effective and easy tool to increase health professionals' involvement in violence prevention. Contact: Diana Jacobson, M.S., R.N., Monterey County Health Department, 1000 S. Main Street, Room 306, Salinas, CA 93906. Telephone: (408) 755-8486.

MIGRANT WORKERS

In **Utah**, a **Summer School Migrant Clinic Program** is conducted by the Department of Health (Division of Family Health Services), in collaboration with Utah's Migrant Health Project, Migrant Head Start Project, and State Office of Education. Within this program, health screening services are provided to children in attendance at Migrant Head Start centers and Migrant Education summer schools during the months of June and July. Written parental permission is required for children to obtain health screening services through the program. Services are provided through the combined efforts of a traveling nursing team and a traveling medical examination team, which conduct clinics on-site at various Migrant Head Start and Migrant Education locations. Health screening services include physical examinations, dental screenings, and audiological screenings. Minor acute health problems identified at the time of screening are treated, if possible. Problems requiring more extensive evaluation and/or follow-up are referred to health care providers or clinics within the respective local communities. Contact: Jan Robinson, R.N., M.S., Family Health Services, 288 North, 1460 West, P.O. Box 16650, Salt Lake City, UT 84116-0650. Telephone: (801) 538-6140.

The **Plan de Salud del Valle Community and Migrant Health Center**, in **Fort Lupton, Colorado**, established an oral health/dental program to provide emergency, preventive, and early intervention oral health services to migrant workers (54 percent Hispanic, 1 percent African American, and 1 percent Asian). The program responds to the peak migrant season by expanding its hours to 10 p.m., Monday through Thursday. Throughout the year, provider capabilities are expanded through use of dental students from Northwestern University, the University of Iowa, and the University of Colorado. Dental outreach in the form of preventive screening and referral care is provided using a mobile van. Dental hygienists from Salud are sent to migrant schools and migrant Head Start schools to provide prevention services and to coordinate dental services between schools and clinics. Contact: Dr. John McFarland, 1115 Second Street, Ft. Lupton, CO 80621. Telephone (303) 892-0004.

The **Advanced Nurse Education Programs** at **Arizona State University** and the **University of San Diego** are expanding existing family nurse practitioner programs to include a major focus on caring for migrant workers and their families. The nurses who graduate from these programs (1) will have primary care skills that will allow them to provide for about 85-90 percent of the health care needs of migrant workers and their families, (2) be fluent in Spanish, and (3) have in-depth knowledge of the cultural and economic pressures on Hispanic migrant workers and familiarity with their particular health risks, including TB, malaria, and AIDS. Contacts: Dr. Ruth Ludemann, Advanced Nurse Education Programs at Arizona State University, College of Nursing, Tempe, AZ 85287-2602; and Dr. Louise Rauckhorst, Advanced Nurse Education Programs at University of San Diego, School of Nursing, 5998 Alcala Park, San Diego, CA 92110.

REFUGEE AND IMMIGRANT HEALTH

In **Illinois**, the **Refugee and Immigrant Health Screening Program** manages and coordinates the activities of 11 local centers serving refugees and immigrants, providing health screenings and treatment, referral, and follow-up for identified health problems. Health conditions commonly observed at the centers include tuberculosis, hepatitis B, and parasitic infections. Bilingual/bicultural staff and health education materials are available to assist the clients through the health screening process. Populations served by the program include refugees from Vietnam, Iraq, Bosnia, Ethiopia, and the former Soviet Union. The State Legalization Impact Assistance Grant, which is also administered by the Refugee and Immigrant Health Screening Program, provides funding to local health departments for health services to eligible legalized aliens residing within their jurisdictions. Contact: Carolyn L. Broughton, Coordinator, Refugee and Immigrant Health Screening Program, Illinois Department of Public Health, 535 West Jefferson Street, Springfield, IL 62761. Telephone: (217) 785-4311.

The **Indigenous Model for Enhancing Access to Genetic and Maternal and Child Health Services for Southeast Asian Refugee Populations**, located at **Ohio State University,** seeks to initiate, implement, and evaluate the effectiveness of an indigenous model for reducing barriers and enhancing the utilization of genetic and other maternal and child health services for Southeast Asian populations. Ten objectives have been proposed, including a series of videotapes on selected topics in three Southeast Asian languages and a series

of modules for U.S. health care providers to enhance their cultural competency. Contact: Moon Chen, Ph.D., 320 West 10th Avenue, Columbus, OH 43210-1240. Telephone: (614) 293-3897.

ALL MINORITIES

Los Angeles County, California, implemented a project addressing intentional injuries, focusing primarily on the prevention of gang violence. The target population is African American, Latino, and Asian males aged 15 to 34 who are gang members or who are at risk of becoming involved in gang activity. Project staff have used a wide variety of data sources in an attempt to describe violence and define what constitutes a violent act. The project's broad-based **Violence Prevention Coalition** has been pivotal in stimulating county-wide coordination and cooperation. There are now more than 150 member agencies. The coalition's activities during the Los Angeles riots illustrated its spirit of cooperation in keeping the lines of communication open between agencies and in providing a neutral forum for engineering a coordinated community response. Contact: Billie Weiss, Project Director, Injury Prevention and Control Project, Los Angeles County Department of Health Services, 313 North Figueroa Street, Room 127, Los Angeles, California 90012. Telephone: (213) 240-7785.

In **Florida**, a street outreach staff from the **Pinellas County** Public Health Unit set up condom jars at different locations (e.g., a bar, a beauty salon, a barbecue stand) in south Pinellas County. Outreach staff have established regular times and locations for refilling these jars and have been able to provide HIV/AIDS and STD education and risk-reduction education to high-risk individuals in the community. Through this outreach, public awareness about AIDS prevention has been raised. Contact: Lori Johnston, Health Educator II, HRS Pinellas County Public Health Unit, 500 7th Avenue South, St. Petersburg, FL 33701. Telephone: (813) 823-0401 ext. 338.

The **Wilson County** Health Department in **North Carolina** sponsored a community-oriented sports and health festival known as **Hoops for Health**. Through this project, minority males have the opportunity to play in a 3-on-3 basketball tournament, as well as participate in health and social education exhibits. Information was provided on gun control, smoking/tobacco cessation, drinking and driving, date rape, AIDS/STDs, testicular cancer, and several other health behavior topics. Hoops for Health has been a successful program, with food and door prizes donated by various businesses. Contact: Linda Barrett, Wilson County Health Department, 1801 Glendale Drive, Wilson, NC 27893. Telephone: (919) 291-5470.

The Colorado Department of Health's Cancer Control Program has established the **Colorado Women's Cancer Control Initiative** to promote adherence to routine breast and cervical cancer screening exams. This initiative supports the following activities, especially to benefit the African American and Hispanic women in participating communities: public education and outreach; professional education and support of health care providers to refer clients; quality assurance of screenings; elimination of financial barriers; tracking and follow-up activities; and evaluation and surveillance to monitor prevalence of morbidity and mortality of breast and cervical cancer. In cooperation with five community coalitions made up of African American and Hispanic women, this initiative developed DO IT FOR LIFE, a series of educational presentations about breast and cervical cancer. Contact: Carole A. Chrvala, Director, Cancer Control Program, 4300 Cherry Creek Drive South, Denver, CO 80222-1530. Telephone: (303) 692-2524.

The **Multicultural Prenatal Drug and Alcohol Prevention Project** of the Women's Action Alliance aims to decrease the use of both legal and illegal drugs before and during pregnancy in two underserved communities—the **Pilsen-Little Village** in **Chicago** and the **Crown Heights** and **Bedford Stuyvesant** sections of **Brooklyn**. Two women's centers that have historically served a variety of health and social needs in an African American and Latino community will offer a series of educational support groups and referral services to women of childbearing age and to substance-abusing pregnant women. Contact: Chris Kirk, 370 Lexington Avenue, Room 603, New York, NY. Telephone: (212) 532-8330, ext. 106.

The **Overcoming Ethnocultural Barriers to Genetic Services Project** in **San Francisco, California**, seeks to identify innovative and culturally appropriate techniques to overcome barriers to genetic services among diverse groups unfamiliar with Western culture and medical terminology. The project will identify and address ethnocultural barriers to genetic services and serve as an educational and training resource for providers of genetic services to multi-ethnic populations. Contact: Mitchell Golbus, M.D., Telephone: (415) 821-8358.

The Central **Seattle** Community Health Center in **Washington** has developed a free community-based cardiovascular disease prevention program called **Sound Heart** for Seattle's low-income community residents and African American churches. Health promotion/disease prevention services include blood pressure and cholestorol screenings and worksite health promotion programs. The population served by the program is 53 percent African American, 15 percent Asian/Pacific Islander, 2 percent Hispanic American, and 1 percent American Indian. Contact: Bill Hobson, Central Seattle Community Health Centers, 105 14th Avenue, Suite #2C, Seattle, WA 98122. Telephone: (206) 461-6910.

The **Newark** Community Health Center in **New Jersey** established an HIV Program to serve high-risk populations (57 percent African American, 41 percent Hispanic, and 2 percent multicultural) served by the center. Services include health education, prevention programs, and a counseling support group supported by trained medical/health professionals. Contact: Bob Russell, Newark Community Health Center, 741 Broadway North, Newark, NJ 07104. Telephone: (201) 483-1300.

The **Peer Education Programs** in **Rhode Island** are experiencing much success in conveying specific health information to pre-teens and teenagers. The AIDS Program provides an 8-week health education series to pre-teens aged 7 to 13 and an 8-week AIDS Program to 14- to 21-year-olds. It also conducts Safety Net Parties in the homes of teenagers in which an array of health issues are presented. The Family Life Peer Education Program provides an ongoing series to students aged 13

to 15. The series includes workshops in abstinence, puberty, male and female anatomy, sexually transmitted diseases, and birth control methods. The Teen Peer Educators are trained to conduct workshops, to be conference facilitators, and to lead teen panel discussions and debates. Contact: Paul Lopes, Director, John Hope Settlement House, 7 Burgess Street, Providence, RI 02903. Telephone: (401) 421-6993.

The **CARE Program** in **Lancaster, Pennsylvania**, targets fourth graders at high risk for alcohol and other drug use. Student CARE groups, home visits with families, summer camp, parent groups, field trips, and family activities are all means by which the CARE program is reducing risk factors and increasing resiliency among children. Contact: Dr. Kirk Fisher, Coordinator of Pupil Services, School District of Lancaster, P.O. Box 150, Lancaster, PA 17608. Telephone: (717) 291-6146.

The **PACT** (Policy, Action, Collaboration, and Training) **Against Violence** in **California** is a youth violence prevention effort conducted by **Contra Costa County** Health Services Department in a coalition effort with nine community agencies. Twenty-five youths aged 10 to 18 receive training in leadership and conflict resolution skills and participate in outreach programs coordinated by the collaborating agencies. Community presentations, forums, and school-based programs are other components of this multi-faceted project. Contact: Nancy Baer, Andres Sota, 75 Santa Barbara Road, Pleasant Hill, CA 94523. Telephone: (510) 646-6511.

In **Milwaukee, Wisconsin, Neighborhood Partners** provides the tools that small grassroots groups need to build neighborhood coalitions to fight alcohol and drug abuse and other specific problems in their communities. Neighborhood Partners is a "consulting service on wheels," offering leadership development training, research and planning technology, and logistical support to neighborhood block clubs, church groups, parent associations, and youth organizations. A network of 60 coalitions by 1996 is planned. Contact: Janis Wilberg, Ph.D., Social Development Commission, 231 West Wisconsin Avenue, Milwaukee, WI 53203. Telephone: (414) 272-5600.

The **New York Healthy Heart Program** combines a community-based intervention program with a state-wide media campaign to encourage residents to adopt healthy behaviors that will reduce their risk of heart disease. The community-based interventions are located in Niagara County, Otsego-Schoharie Counties, Ithaca, White Plains, the Bedford-Stuyvesant area of Brooklyn, East Harlem, Central Harlem, and the Washington Heights-Inwood area of north Manhattan. Programs in Brooklyn and Harlem focus primarily on health promotion needs of African Americans and Hispanics. Contact: Sonya Hedlund, Director, State Healthy Heart Program. New York State Department of Health, Room 557 Corning Tower, Empire State Plaza, Albany, NY 12237-0602. Telephone: (518) 474-0931.

SUMMARY

These programs are a sampling of current efforts to address health disparities among racial and ethnic population groups in the United States. In order to successfully reach the HEALTHY PEOPLE 2000 goals and objectives, health promotion and disease prevention activities must reach all Americans. The ultimate goal of these efforts is to empower individuals to make well-informed and positive health behavior choices to improve their health.

CHAPTER 2

HEALTH STATUS TRENDS

This chapter examines trends in mortality rates and causes and selected health status factors for the general population as well as major age groups (infants, children, adolescents and young adults, adults, and older adults) and specific population groups (people with low income, Alaska Natives and American Indians, Asians and Pacific Islanders, Blacks, Hispanics, and people with disabilities) addressed in *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*. These health status measures enhance our understanding of the Nation's progress in disease prevention and health promotion.

The three broad goals of HEALTHY PEOPLE 2000 establish the structure of this chapter. The first section focuses on healthy life: the increase of healthy life as a proportion of an individual's entire life span and the elimination, or compression, of morbidity from preventable disease and disability are the true aims of prevention. The emphasis on the quality of life, rather than simply life extension, moves away from a narrow focus on only the end result.

The next section focuses on the health disparities that are so prevalent in the United States. The 1990 objectives documented significant dispar-

ities in the health status of population groups. Specific groups lag behind the general population and the white population in almost every health indicator. HEALTHY PEOPLE 2000 established specific population objectives for many of the overall objectives in order to focus attention on these inequities and, thereby, encourage prevention strategies to reduce them.

The final section of this chapter addresses access to primary care. HEALTHY PEOPLE 2000 established universal access to preventive services as a goal for the Nation. Disease prevention and health promotion cannot realistically be accepted as a possibility for all Americans unless everyone has access to a regular source of primary care. For a substantial number of Americans, however, access to care remains a serious problem. Socioeconomic status, rather than race or ethnicity, seems to be the biggest obstacle to achieving this goal under the constraints of the present day health care system. Among the goals of health care reform, as well as HEALTHY PEOPLE 2000, is to address and resolve this problem.

OVERALL TRENDS

Following sharp declines in the 1970s, the age-adjusted[1] death rate for all Americans decreased more gradually throughout the 1980s to reach 520.2 in 1990, the lowest age-adjusted death rate in the history of the United States. The total number of deaths in 1990 was 2,148,463, a slight decrease from 1989 and the record number of 2,167,999 deaths in 1988.

During the 1980s, there were significant declines in death rates for three of the leading causes of death among Americans: heart disease, stroke, and unintentional injuries. In 1990, these trends continued downward. Infant mortality also decreased to 9.2 per 1,000 live births, the lowest level in the Nation's history. Improvements in these areas give hope that the 1990s will see more progress, especially for diseases that have not declined significantly, such as cancer.

[1] Age-adjusted death rates show what the level of mortality would be if there were no changes in the age composition of the population from year to year and are therefore better indicators than unadjusted rates of changes over time in the risk of dying. All death rates mentioned in this chapter are adjusted to the 1940 population unless otherwise specified.

GOAL 1: INCREASE THE SPAN OF HEALTHY LIFE FOR AMERICANS

The first of the three broad goals of HEALTHY PEOPLE 2000 is to increase the span of healthy life for Americans. Beyond the aim of extending life, which has for so long guided our medical system, the extension of *healthy* life fits naturally into a prevention agenda for the Nation. Health promotion and disease prevention is a means toward the end of good health—with the absence of unnecessary disease and disability.

In the course of this century, life expectancy at birth has increased by almost 60 percent, from 47 years in 1900 to over 75 years in 1990. This progress has been largely due to the advances of science and public health in conquering life-threatening and communicable diseases. The evolution from communicable diseases to chronic diseases and injuries as the leading causes of death and disability, coupled with the aging of the population, directs our attention to quality of life issues. The end result of disease can be measured by mortality statistics, but the cost in morbidity and human suffering associated with both chronic and infectious disease goes far beyond mortality statistics. Following is a review of recent mortality trends, as well as data relevant to quality of life measures, such as years of healthy life as a proportion of total life, years of potential life lost before age 65, and the percentage of people experiencing limitation of activity.

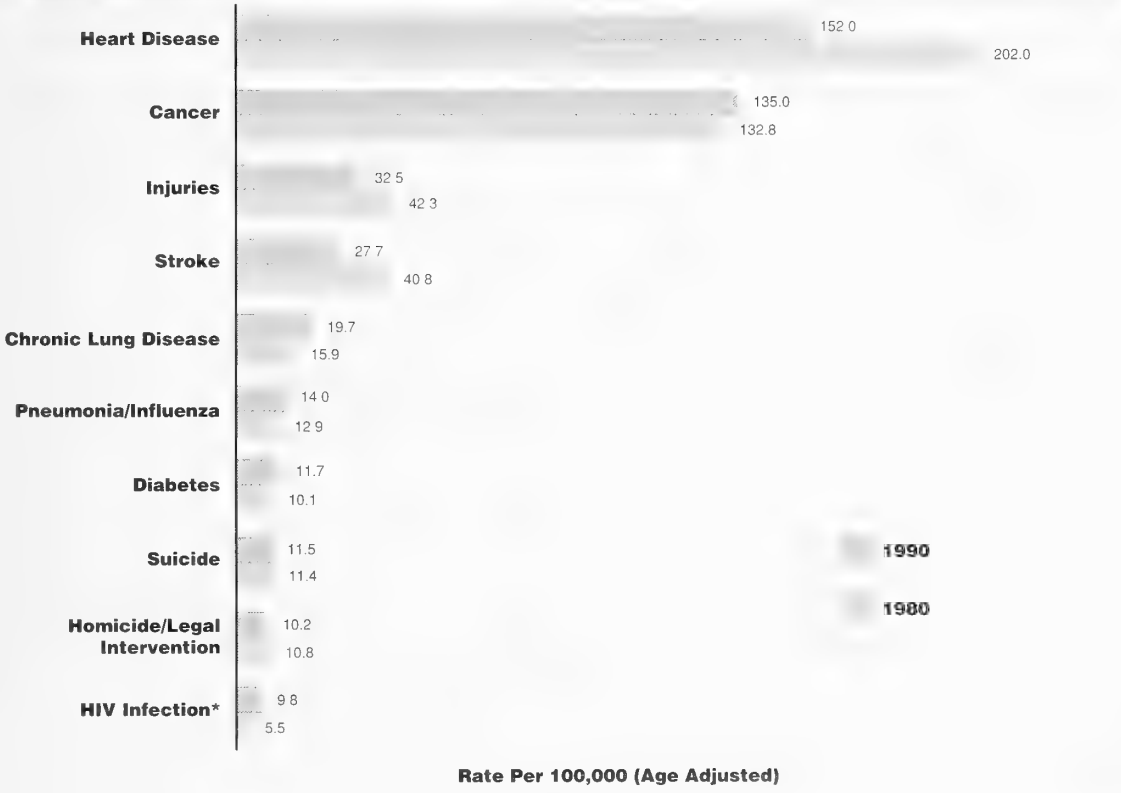
MAJOR CAUSES OF DEATH AMONG THE U.S. POPULATION

Figure 1 shows the 10 major causes of death among the total U.S. population with the highest age-adjusted death rates in 1990 and compares death rates from these causes in 1990 and 1980. This group may differ somewhat from the 10 "leading" causes of death, which traditionally are derived from a ranking based on the number of deaths rather than the magnitude of the age-adjusted rates. The top five causes of death, which accounted for about 71 percent of total deaths in 1990, are diseases of the heart (heart disease), malignant neoplasms, including neoplasms of lymphatic and hematopoietic tissues (cancer), accidents and adverse effects (unintentional injuries), cerebrovascular diseases (stroke), and chronic obstructive pulmonary diseases and allied conditions (chronic lung disease).

From 1980 to 1990, the age-adjusted death rate from heart disease declined 25 percent; that for unintentional injuries, including motor vehicle crashes, 23 percent; and that for stroke, 32 percent. The death rate from cancer did not change substantially over the period. The death rate for chronic lung disease, which generally has been rising since 1950, increased 24 percent. Diabetes mellitus (diabetes) and homicide and legal intervention (homicide) have shown a pattern of recent increases after reaching a plateau in the mid-1980s. The rate for diabetes increased 21 percent from 1985 to 1990; and that for homicide, 23 percent from 1985 to 1990.

Human immunodeficiency virus (HIV infection) had the 10th highest age-adjusted death rate in 1990, increasing 13 percent from 1989. HIV infection has been classified separately for reporting only since 1987, and the total increase in the age-adjusted death rate between 1987 and 1990 was 78 percent. Chronic liver disease and cirrhosis (cirrhosis) declined 30 percent between 1980 and 1990, to become the 11th highest age-adjusted death rate. Pneumonia/influenza has increased slightly in recent years, and suicide has shown minimal fluctuation in the age-adjusted death rate since 1980.

Figure 1. Death Rates for Major Causes of Deaths, 1980 and 1990



*Data are for 1987, the first year HIV infection was reported separately, and 1990

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

INFANT MORTALITY

The U.S. infant mortality rate declined to 9.2 per 1,000 live births in 1990, the lowest level in the Nation's history. Technological advances in neonatal care, particularly aiding low-birth-weight infants, fueled the 54-percent decline in mortality from 1970 to 1990. HEALTHY PEOPLE 2000 set a target of 7 deaths per 1,000 live births for the year 2000.

Despite substantial progress in the 1980s, the United States still ranks below many other developed nations in international comparisons of infant mortality. The U.S. rate in 1989 was higher than that of 23 other industrialized nations, including Japan (4.6), Canada (7.1), and Sweden (5.8).

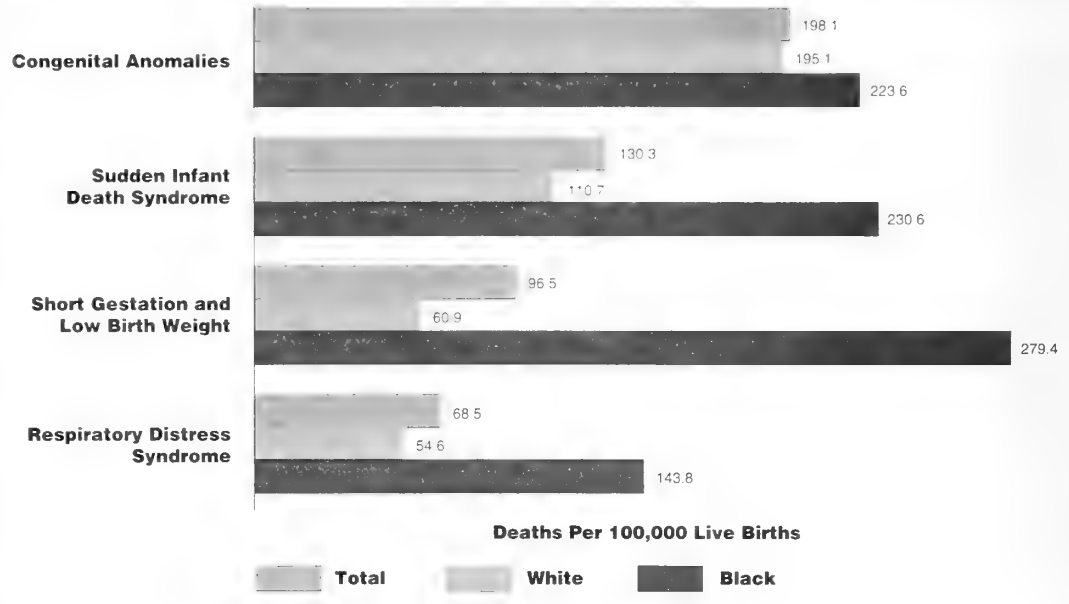
Significant reductions in the U.S. infant mortality rate will depend upon closing the gap between rates for whites and minority populations with high infant mortality rates. For example, the 1990 rate for blacks was 2.2 times the rate for whites, and rates for some American Indian tribes and for Puerto Ricans were also considerably higher than for white infants. The greatest opportunities for progress in the 1990s are to be found in increasing access to and receipt of prenatal care rather than in advances in neonatal medical treatment.

Of the 4.2 million children born in 1990, 38,351 died before their first birthday. Four causes account for more than half of all infant deaths: congenital anomalies, sudden infant death syndrome (SIDS), disorders relating to short gestation and low birth weight (less than 5 pounds, 8 ounces), and respiratory distress syndrome (Fig. 2). Between 1989 and 1990, the rates for both congenital anomalies and short gestation/low birth weight decreased by 1 percent, and SIDS decreased by 7 percent. Respiratory distress syndrome declined most dramatically, by 24 percent.

Although ranked only third as a primary cause of infant death in 1990, short gestation/low birth weight is linked with approximately three-quarters of all infant deaths in the first month, and 60 percent of all infant deaths occur among low-birth-weight infants. Low birth weight occurred in about 7 percent of live births—a rate virtually unchanged since 1980. Low-birth-weight infants are 40 times more likely to die in the first 30 days after birth, and low-birth-weight survivors suffer chronic physical and learning disabilities two to three times more often than normal weight infants.

The congenital anomalies (birth defects) most likely to result in death include heart disease, respiratory distress syndrome, malformations of the brain and spine, and combinations of several malformations. Infant mortality from congenital anomalies had been declining steadily, although it increased slightly in 1990.

Figure 2. Leading Causes of Infant Mortality, 1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

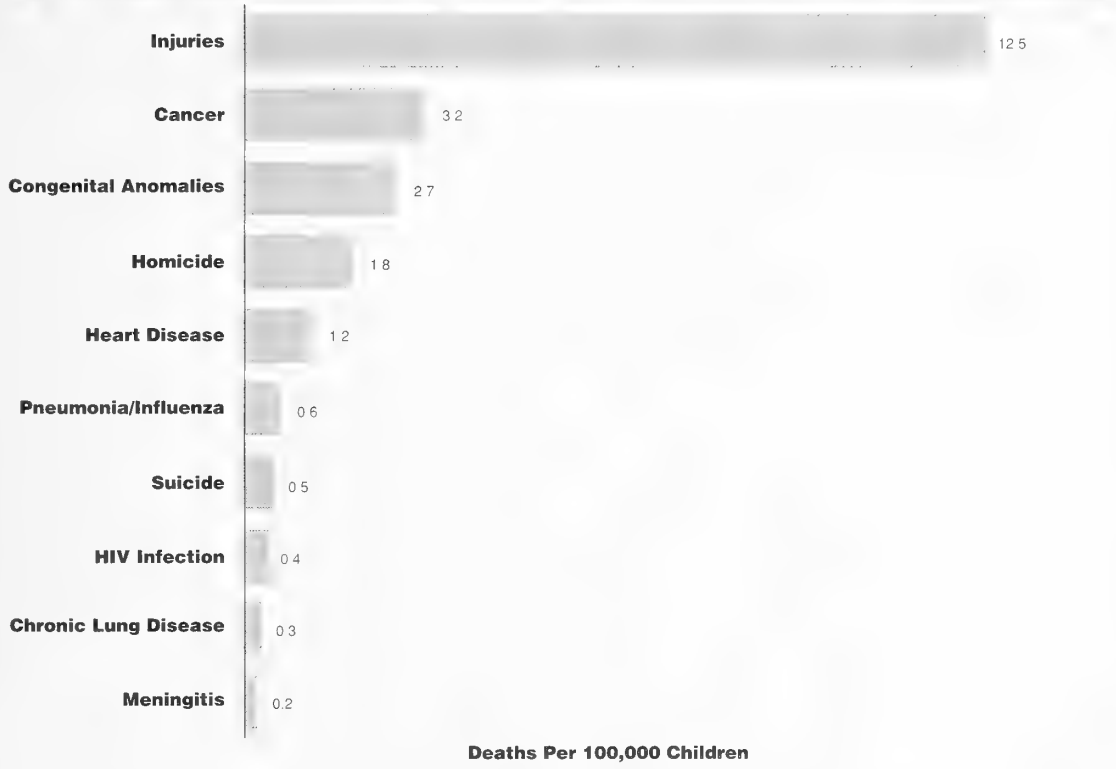
MORTALITY AMONG CHILDREN

The three leading causes of death among children declined in 1990, continuing the steady trend that characterized the 1980s. The category of accidents and adverse effects (unintentional injuries), including motor vehicle crashes, drowning, fires, falls, and poisoning, is the leading cause of death for children, as seen in Figure 3. About 41 percent of the 30.8 deaths per 100,000 children aged 1 through 14 were due to unintentional injuries, and about half of those stemmed from motor vehicle crashes.

The overall unintentional injury death rate in this age group declined 10.1 percent from 1989 to 1990, and the motor vehicle crash death rate declined 9.1 percent. Several factors are responsible for the recent decline in motor vehicle injuries, including improvements in child passenger safety laws, automobile design, safety seats, and public awareness and advocacy. Since 1985, all 50 States and the District of Columbia have had child safety seat use laws.

The cancer death rate among children also declined 6 percent from 1989 to 1990, contrary to the trend in the total population. Rates for most of the other 10 leading causes of death among children also declined or remained steady in 1990. Deaths from HIV infection were only about 1 percent of total deaths among children and the rate remained at 0.4 per 100,000 in 1989 and 1990. The homicide rate among children held steady in 1990, after having increased 6 percent from 1988 to 1989, with the greatest increase among those aged 5 to 14. Benign neoplasms increased from 0.3 per 100,000 in 1989 to 0.4 in 1990.

Figure 3. Leading Causes of Death for Children Aged 1 Through 14, 1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

MORTALITY AMONG ADOLESCENTS AND YOUNG ADULTS

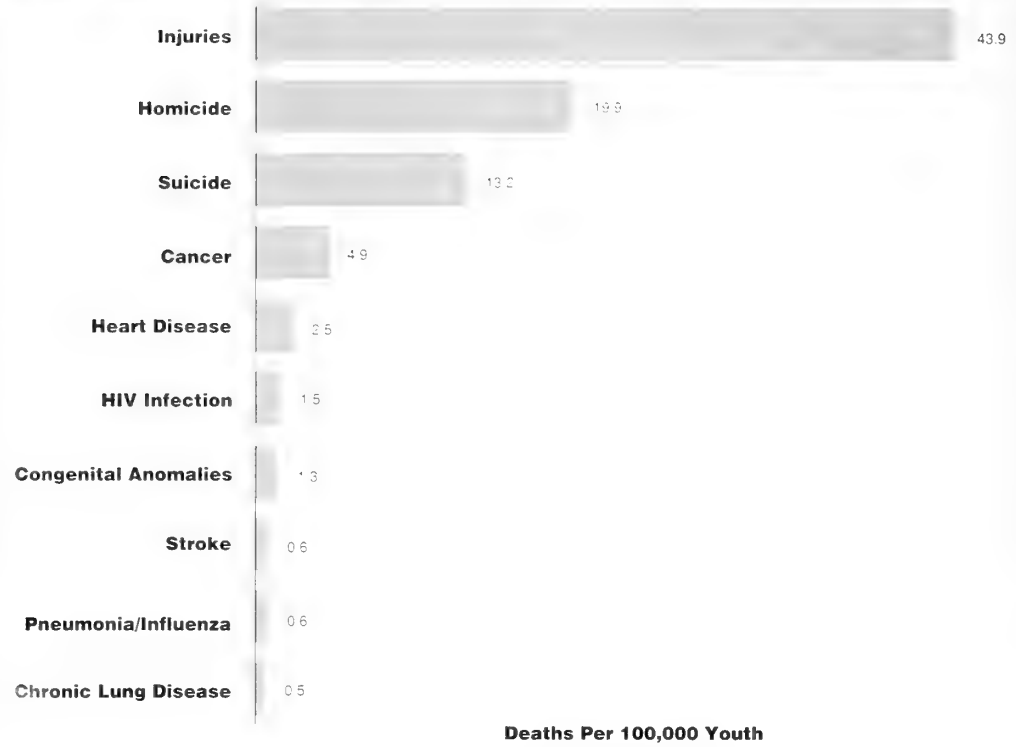
Figure 4 ranks the 10 leading causes of death for those aged 15 to 24 in 1990. A long-term decline in this age group's death rate has reversed in recent years, and 1990 saw a 2-percent increase over 1989. Death rates for cancer and heart disease changed little in 1990 compared to 1989 (a decrease of 2 percent and unchanged, respectively), but were offset in part by an increase for homicide (up 21 percent) and a slight increase in suicide (up 2 percent).

The percentage of total deaths due to injuries in this age group in 1990 was approximately the same as in 1950—44 percent. Motor vehicle crashes accounted for 78 percent of unintentional injury deaths in 1990. Motor vehicle crashes are the leading cause of death of this group's white youth, and over half of these deaths are associated with alcohol. The steadily rising homicide rate now accounts for 20 percent of total deaths, compared to 13.5 percent in 1980. Homicide is the leading killer of black adolescents and black young adults, and the association with alcohol and other drugs is substantial.

Suicide, the third leading cause of mortality, increased to 13.2 percent of total deaths from 1989 to 1990. Most deaths from suicide are among white males, although females in this age group attempt suicide approximately three times more often than males. Firearms are used in about 60 percent of adolescent and young adult suicides.

Data for 1990 showed a decline in the death rate from HIV infection from 1.6 per 100,000 in 1989 to 1.5, although it remains the sixth leading cause of death.

Figure 4. Leading Causes of Death for Adolescents and Young Adults Aged 15 Through 24, 1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

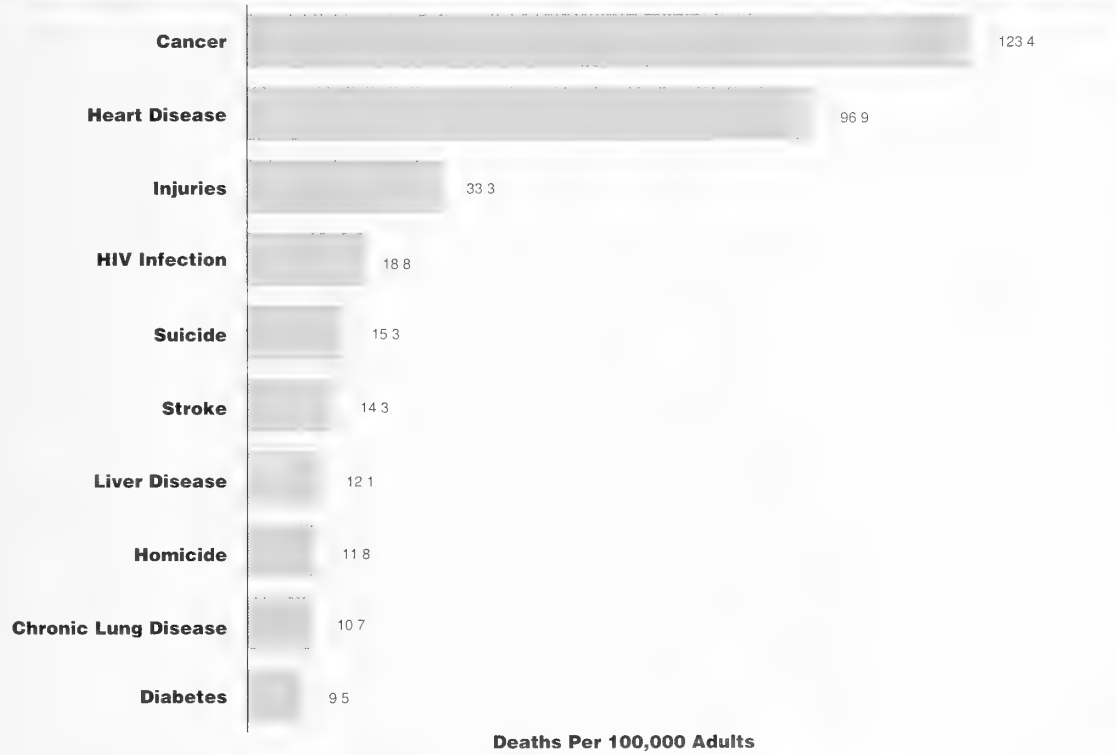
MORTALITY AMONG ADULTS

The 10 leading causes of death for adults aged 25 to 64 in 1990 are ranked in Figure 5. The long-term decline in this age group's death rate has continued: in 1990, the rate was 406.2 deaths per 100,000. This represents an 18-percent decline since 1980. The three leading causes of death—cancer, heart disease, and unintentional injuries—account for about 62 percent of all deaths in this age group. The fourth leading cause of death is HIV infection, which has risen sharply and accounted for about 4.6 percent of deaths in this age group in 1990. These and several other top causes of death between the ages of 25 and 64 have been associated with risk factors related to lifestyle.

Rates for the leading causes of death continued to decline in 1990, with the exception of HIV infection, homicide, suicide, and diabetes. The death rate from HIV infection in this age group increased 13.9 percent from 1989 to 1990; over 90 percent of all HIV deaths occurred in this age group. The homicide death rate also climbed, with an overall increase of 4.4 percent. Among those aged 25 to 34, the homicide rate increased by 7 percent. Diabetes, the 10th leading cause of death, also rose 1.1 percent. Suicide increased 2 percent from 1989 to 1990.

From 1989 to 1990, the heart disease death rate declined by 4.6 percent; about 17 percent of all heart disease deaths in the United States were among those aged 25 to 64. Other notable declines in 1990 were chronic liver disease, 5.5 percent; unintentional injuries, 3.8 percent; and chronic lung disease, 3.6 percent. Cancer, the leading cause of death in this age group since 1983, also declined by about 1 percent, and stroke declined 2.7 percent. In contrast to the noticeable decline in the percent of overall deaths due to injury, motor vehicle deaths declined only slightly, from 19 percent of total deaths in this age group in 1989 to 18.8 percent in 1990.

Figure 5. Leading Causes of Death for Adults Aged 25 Through 64, 1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

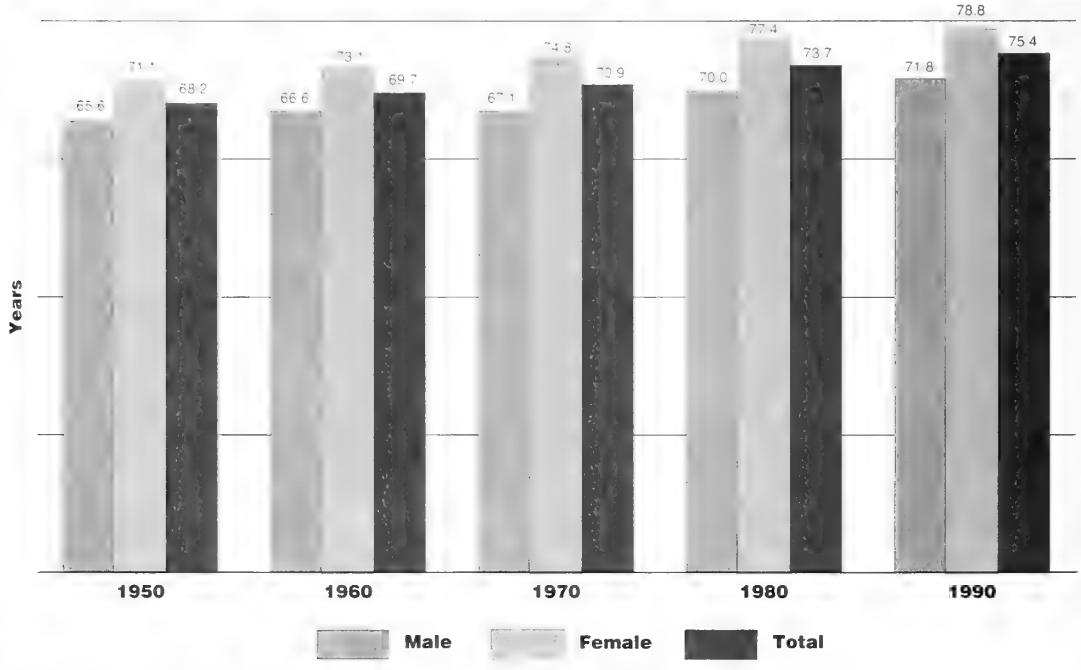
LIFE EXPECTANCY

The overall decline in the death rate has been mirrored by a steady increase in life expectancy at birth for most Americans. Since 1900, life expectancy at birth (the average number of years that a group of infants is expected to live if they experience throughout life the age-specific death rates prevailing during the year of their birth) has increased by 60 percent, from 47 years in 1900 to a record high of 75.4 years in 1990. From 1980 to 1990, life expectancy increased 1.7 years, or 2.3 percent. Figure 6 illustrates the gradual increase in life expectancy since 1950.

White females continue to have the highest life expectancy at birth, 79.4 years in 1990. Life expectancy for white males and black females is 72.7 and 73.6 years, respectively; black males continue to have the lowest life expectancy, 64.5 years. In the United States, males have typically had lower life expectancies than females. The disparity in life expectancy between the black and white populations has not narrowed significantly over the past 30 years and, in fact, has widened over the past several years. The difference in life expectancy between the black and white populations was 7 years in 1990, versus 6.3 years in 1980, 7 years in 1970, and 7.4 years in 1960.

Life expectancy at birth for both males and females is lower in the United States than in many other developed nations. For example, males born in the United States in 1989 had a life expectancy at birth of 71.7 years, versus 76.2 years in Japan, 74.1 in Switzerland, and 73.7 in Canada. For females born in the United States in 1989, life expectancy at birth was 78.5 years, versus 82.5 years in Japan, 81.3 in Switzerland, and 80.6 in Canada.

Figure 6. Life Expectancy at Birth, by Sex, Selected Years, 1950–1990



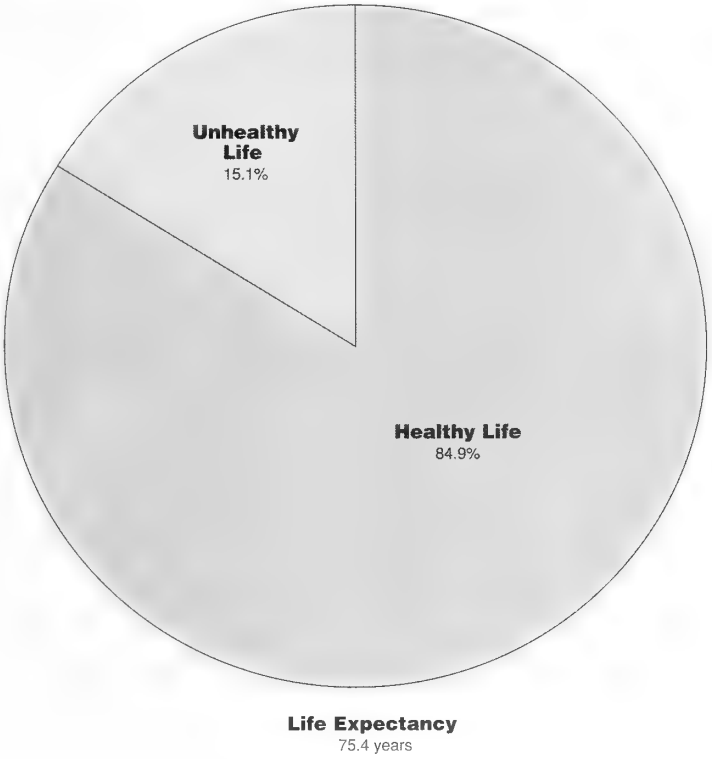
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

INCREASE THE SPAN OF HEALTHY LIFE

The average life expectancy for Americans born in 1990 reached 75.4 years, and people who reached the age of 65 in 1990 could expect to live 17.2 additional years. However, healthy life, and not just life expectancy, must be measured in order develop a consistent disease prevention and health promotion message. This first of the three overarching goals of HEALTHY PEOPLE 2000 recognized the potential for healthy life to extend from birth beyond age 65 for all Americans, free from chronic, disabling diseases and conditions, preventable infections, and serious injury. Still, serious illness or injury, or loss of functional independence resulting from the cumulative effect of lesser impairments affecting an individual's ability to perform activities required for daily living, such as bathing, dressing, and eating, may diminish quality of life for older adults. As Figure 7 shows, approximately 15 percent of overall life expectancy are not healthy years. The unhealthy portion frequently occurs during the later years.

During 1988–90, the chronic conditions most frequently indicated as the main cause of activity limitation were arthritis (18.9 percent of all people with activity limitation), impairments of the lower extremities (8.9 percent), spinal curvatures or back impairments (8.7 percent), high blood pressure (8.3 percent), heart disease (7.1 percent), and intervertebral disk disorders (6.5 percent). For people under age 18, the most prevalent causes were asthma (22.9 percent), mental retardation (19.4 percent), speech impairments (7.8 percent), and hearing impairments (5.1 percent). For adults aged 18 to 44, spinal curvatures, intervertebral disk disorders, and other back impairments accounted for 37.8 percent of activity limitations. At older ages, arthritis, high blood pressure, and heart disease predominated as causes of activity limitation.

Figure 7. Years of Healthy Life as a Proportion of Life Expectancy, 1990



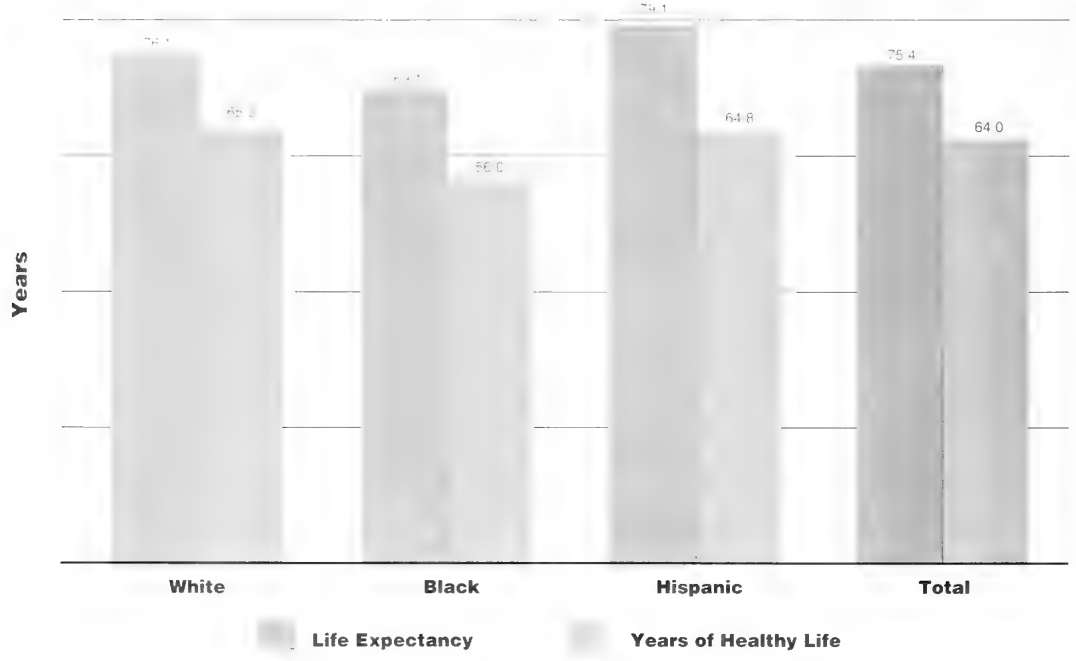
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System and National Health Interview Survey

Figure 8 combines the health status measures of healthy life and life expectancy at birth, comparing 1990 data for all races, whites, and blacks and preliminary data for Hispanics. The general population, whites, and Hispanics all can expect to live 85 percent of their lives in good health, compared to 81 percent for blacks. A similar gap exists in life expectancy between blacks, who have the lowest life expectancy at birth, and whites and Hispanics, who have similar life expectancy. Data for Hispanic life expectancy and years of healthy life yield a paradox, because Hispanics do not compare as favorably to the general population on many other key health indicators, including homicide, HIV infection, and access to health care.

Differences in death rates for leading causes of death, infant mortality rates, and prevalence of chronic and disabling conditions among population groups contribute to these differences across groups in health status. For example, infant mortality, premature death from heart disease and stroke, and prevalence of diabetes are key factors in the lower life expectancy and fewer years of healthy life experienced by blacks.

Comparisons from 1988–1990 for all-causes death rates for whites, Hispanics, and blacks in the 25–44 age group indicate that disparities in the span of healthy life have not been eliminated in the past decade: this rate was 16.1 percent higher among Hispanics than among whites and 143.6 percent higher among blacks as compared to whites. Socioeconomic causes are a major factor in this gap in health status, as poverty and near-poverty appear as underlying elements of many health problems that contribute to the excess mortality and higher prevalence of chronic conditions experienced by these groups.

Figure 8. Life Expectancy and Years of Healthy Life, by Race and Hispanic Origin, 1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System and National Health Interview Survey

MAJOR CAUSES OF DEATH AMONG THE U.S. POPULATION

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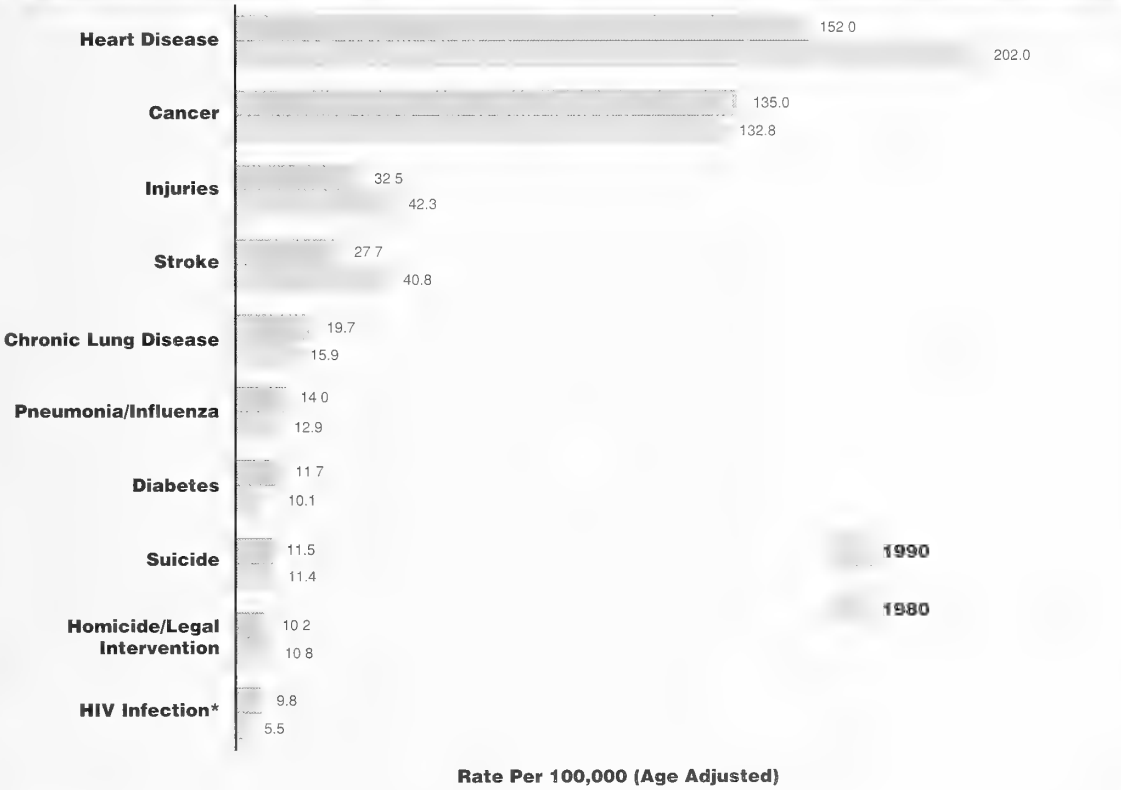
From 1980 to 1990, the age-adjusted death rate from heart disease declined 25 percent; that for unintentional injuries, including motor vehicle crashes, 23 percent; and that for stroke, 32 percent. The death rate from cancer did not change substantially over the period. The death rate for chronic lung disease, which generally has been rising since 1950, increased 24 percent. Diabetes mellitus (diabetes) and homicide and legal intervention (homicide) have shown a pattern of recent increases after reaching a plateau in the mid-1980s. The rate for diabetes increased 21 percent from 1985 to 1990; and that for homicide, 23 percent from 1985 to 1990.

Human immunodeficiency virus (HIV infection) had the 10th highest age-adjusted death rate in 1990, increasing 13 percent from 1989. HIV infection has been classified separately for reporting only since 1987, and the total increase in the age-adjusted death rate between 1987 and 1990 was 78 percent. Chronic liver disease and cirrhosis (cirrhosis) declined 30 percent between 1980 and 1990, to become the 11th highest age-adjusted death rate. Pneumonia/influenza has increased slightly in recent years, and suicide has shown minimal fluctuation in the age-adjusted death rate since 1980.

Figure 1. Death Rates for Major Causes of Deaths, 1980 and 1990



*Data are for 1987, the first year HIV infection was reported separately, and 1990

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

INFANT MORTALITY

The U.S. infant mortality rate declined to 9.2 per 1,000 live births in 1990, the lowest level in the Nation's history. Technological advances in neonatal care, particularly aiding low-birth-weight infants, fueled the 54-percent decline in mortality from 1970 to 1990. HEALTHY PEOPLE 2000 set a target of 7 deaths per 1,000 live births for the year 2000.

Despite substantial progress in the 1980s, the United States still ranks below many other developed nations in international comparisons of infant mortality. The U.S. rate in 1989 was higher than that of 23 other industrialized nations, including Japan (4.6), Canada (7.1), and Sweden (5.8).

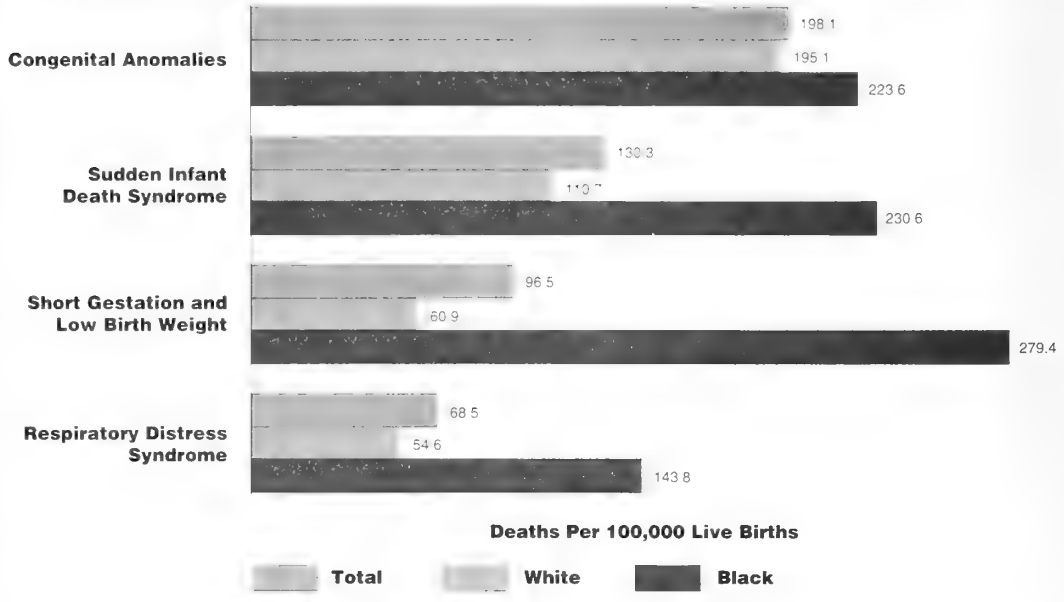
Significant reductions in the U.S. infant mortality rate will depend upon closing the gap between rates for whites and minority populations with high infant mortality rates. For example, the 1990 rate for blacks was 2.2 times the rate for whites, and rates for some American Indian tribes and for Puerto Ricans were also considerably higher than for white infants. The greatest opportunities for progress in the 1990s are to be found in increasing access to and receipt of prenatal care rather than in advances in neonatal medical treatment.

Of the 4.2 million children born in 1990, 38,351 died before their first birthday. Four causes account for more than half of all infant deaths: congenital anomalies, sudden infant death syndrome (SIDS), disorders relating to short gestation and low birth weight (less than 5 pounds, 8 ounces), and respiratory distress syndrome (Fig. 2). Between 1989 and 1990, the rates for both congenital anomalies and short gestation/low birth weight decreased by 1 percent, and SIDS decreased by 7 percent. Respiratory distress syndrome declined most dramatically, by 24 percent.

Although ranked only third as a primary cause of infant death in 1990, short gestation/low birth weight is linked with approximately three-quarters of all infant deaths in the first month, and 60 percent of all infant deaths occur among low-birth-weight infants. Low birth weight occurred in about 7 percent of live births—a rate virtually unchanged since 1980. Low-birth-weight infants are 40 times more likely to die in the first 30 days after birth, and low-birth-weight survivors suffer chronic physical and learning disabilities two to three times more often than normal weight infants.

The congenital anomalies (birth defects) most likely to result in death include heart disease, respiratory distress syndrome, malformations of the brain and spine, and combinations of several malformations. Infant mortality from congenital anomalies had been declining steadily, although it increased slightly in 1990.

Figure 2. Leading Causes of Infant Mortality, 1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

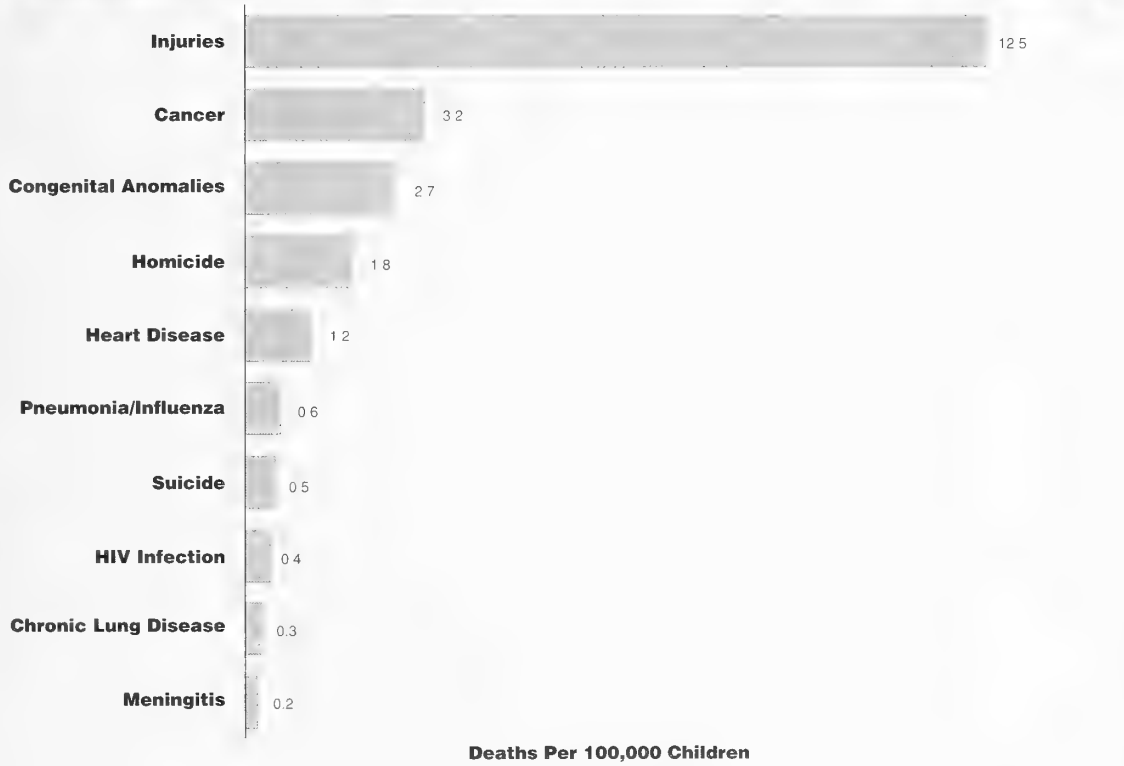
MORTALITY AMONG CHILDREN

The three leading causes of death among children declined in 1990, continuing the steady trend that characterized the 1980s. The category of accidents and adverse effects (unintentional injuries), including motor vehicle crashes, drowning, fires, falls, and poisoning, is the leading cause of death for children, as seen in Figure 3. About 41 percent of the 30.8 deaths per 100,000 children aged 1 through 14 were due to unintentional injuries, and about half of those stemmed from motor vehicle crashes.

The overall unintentional injury death rate in this age group declined 10.1 percent from 1989 to 1990, and the motor vehicle crash death rate declined 9.1 percent. Several factors are responsible for the recent decline in motor vehicle injuries, including improvements in child passenger safety laws, automobile design, safety seats, and public awareness and advocacy. Since 1985, all 50 States and the District of Columbia have had child safety seat use laws.

The cancer death rate among children also declined 6 percent from 1989 to 1990, contrary to the trend in the total population. Rates for most of the other 10 leading causes of death among children also declined or remained steady in 1990. Deaths from HIV infection were only about 1 percent of total deaths among children and the rate remained at 0.4 per 100,000 in 1989 and 1990. The homicide rate among children held steady in 1990, after having increased 6 percent from 1988 to 1989, with the greatest increase among those aged 5 to 14. Benign neoplasms increased from 0.3 per 100,000 in 1989 to 0.4 in 1990.

Figure 3. Leading Causes of Death for Children Aged 1 Through 14, 1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

MORTALITY AMONG ADOLESCENTS AND YOUNG ADULTS

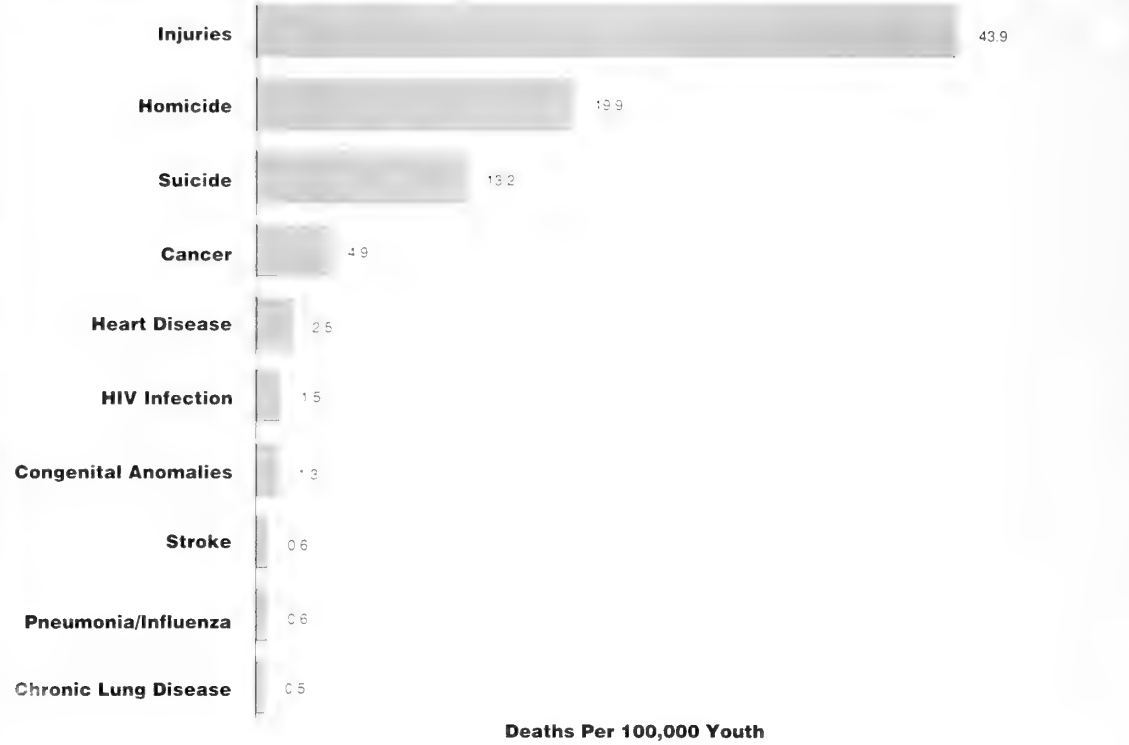
Figure 4 ranks the 10 leading causes of death for those aged 15 to 24 in 1990. A long-term decline in this age group's death rate has reversed in recent years, and 1990 saw a 2-percent increase over 1989. Death rates for cancer and heart disease changed little in 1990 compared to 1989 (a decrease of 2 percent and unchanged, respectively), but were offset in part by an increase for homicide (up 21 percent) and a slight increase in suicide (up 2 percent).

The percentage of total deaths due to injuries in this age group in 1990 was approximately the same as in 1950—44 percent. Motor vehicle crashes accounted for 78 percent of unintentional injury deaths in 1990. Motor vehicle crashes are the leading cause of death of this group's white youth, and over half of these deaths are associated with alcohol. The steadily rising homicide rate now accounts for 20 percent of total deaths, compared to 13.5 percent in 1980. Homicide is the leading killer of black adolescents and black young adults, and the association with alcohol and other drugs is substantial.

Suicide, the third leading cause of mortality, increased to 13.2 percent of total deaths from 1989 to 1990. Most deaths from suicide are among white males, although females in this age group attempt suicide approximately three times more often than males. Firearms are used in about 60 percent of adolescent and young adult suicides.

Data for 1990 showed a decline in the death rate from HIV infection from 1.6 per 100,000 in 1989 to 1.5, although it remains the sixth leading cause of death.

Figure 4. Leading Causes of Death for Adolescents and Young Adults Aged 15 Through 24, 1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

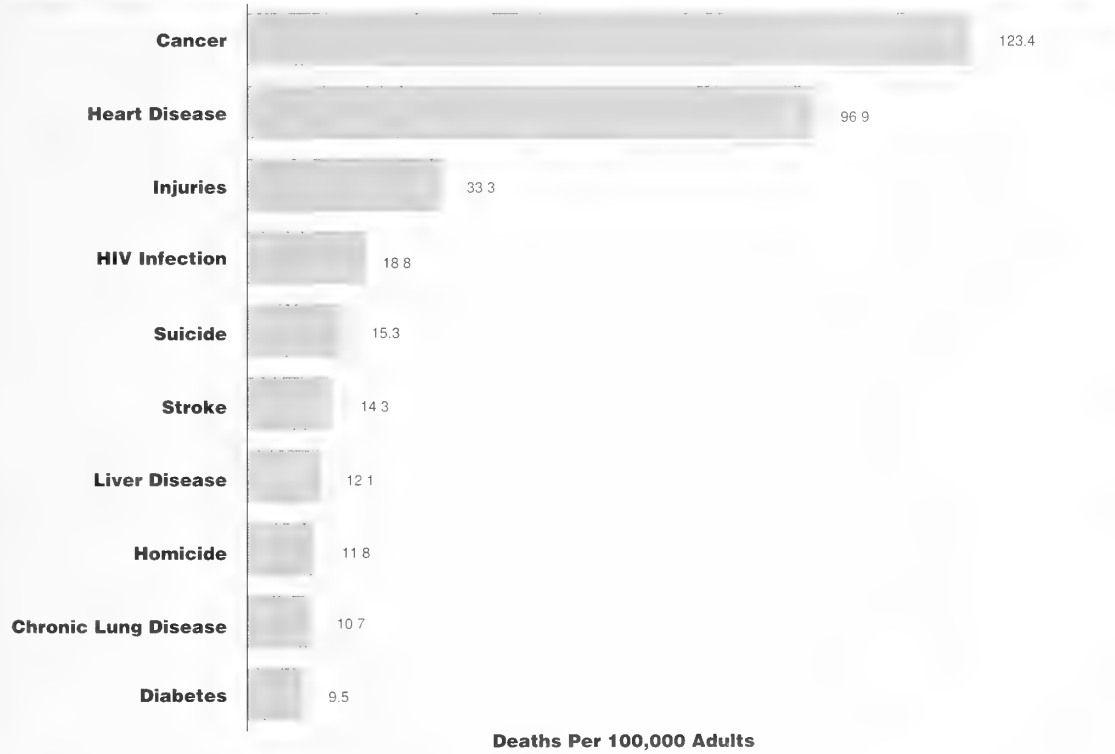
MORTALITY AMONG ADULTS

The 10 leading causes of death for adults aged 25 to 64 in 1990 are ranked in Figure 5. The long-term decline in this age group's death rate has continued: in 1990, the rate was 406.2 deaths per 100,000. This represents an 18-percent decline since 1980. The three leading causes of death—cancer, heart disease, and unintentional injuries—account for about 62 percent of all deaths in this age group. The fourth leading cause of death is HIV infection, which has risen sharply and accounted for about 4.6 percent of deaths in this age group in 1990. These and several other top causes of death between the ages of 25 and 64 have been associated with risk factors related to lifestyle.

Rates for the leading causes of death continued to decline in 1990, with the exception of HIV infection, homicide, suicide, and diabetes. The death rate from HIV infection in this age group increased 13.9 percent from 1989 to 1990; over 90 percent of all HIV deaths occurred in this age group. The homicide death rate also climbed, with an overall increase of 4.4 percent. Among those aged 25 to 34, the homicide rate increased by 7 percent. Diabetes, the 10th leading cause of death, also rose 1.1 percent. Suicide increased 2 percent from 1989 to 1990.

From 1989 to 1990, the heart disease death rate declined by 4.6 percent; about 17 percent of all heart disease deaths in the United States were among those aged 25 to 64. Other notable declines in 1990 were chronic liver disease, 5.5 percent; unintentional injuries, 3.8 percent; and chronic lung disease, 3.6 percent. Cancer, the leading cause of death in this age group since 1983, also declined by about 1 percent, and stroke declined 2.7 percent. In contrast to the noticeable decline in the percent of overall deaths due to injury, motor vehicle deaths declined only slightly, from 19 percent of total deaths in this age group in 1989 to 18.8 percent in 1990.

Figure 5. Leading Causes of Death for Adults Aged 25 Through 64, 1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

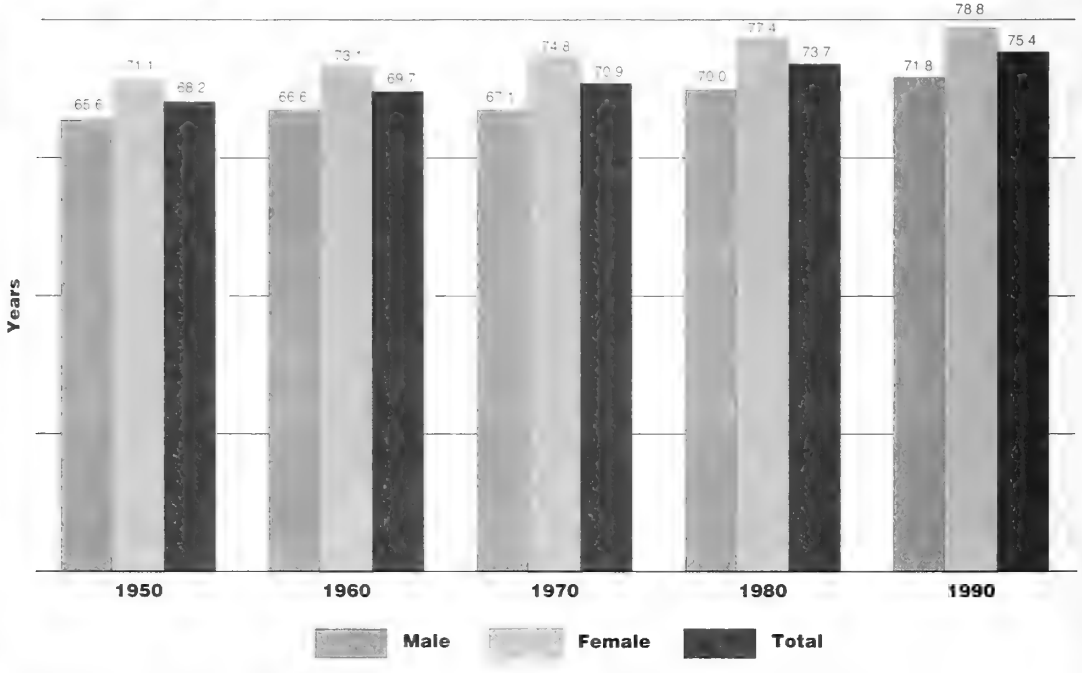
LIFE EXPECTANCY

The overall decline in the death rate has been mirrored by a steady increase in life expectancy at birth for most Americans. Since 1900, life expectancy at birth (the average number of years that a group of infants is expected to live if they experience throughout life the age-specific death rates prevailing during the year of their birth) has increased by 60 percent, from 47 years in 1900 to a record high of 75.4 years in 1990. From 1980 to 1990, life expectancy increased 1.7 years, or 2.3 percent. Figure 6 illustrates the gradual increase in life expectancy since 1950.

White females continue to have the highest life expectancy at birth, 79.4 years in 1990. Life expectancy for white males and black females is 72.7 and 73.6 years, respectively; black males continue to have the lowest life expectancy, 64.5 years. In the United States, males have typically had lower life expectancies than females. The disparity in life expectancy between the black and white populations has not narrowed significantly over the past 30 years and, in fact, has widened over the past several years. The difference in life expectancy between the black and white populations was 7 years in 1990, versus 6.3 years in 1980, 7 years in 1970, and 7.4 years in 1960.

Life expectancy at birth for both males and females is lower in the United States than in many other developed nations. For example, males born in the United States in 1989 had a life expectancy at birth of 71.7 years, versus 76.2 years in Japan, 74.1 in Switzerland, and 73.7 in Canada. For females born in the United States in 1989, life expectancy at birth was 78.5 years, versus 82.5 years in Japan, 81.3 in Switzerland, and 80.6 in Canada.

Figure 6. Life Expectancy at Birth, by Sex, Selected Years, 1950–1990



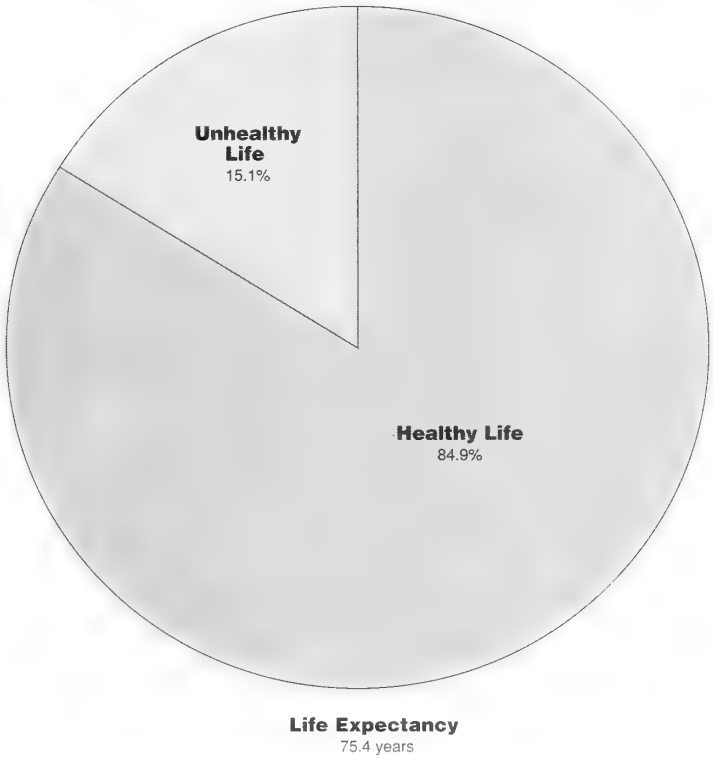
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

INCREASE THE SPAN OF HEALTHY LIFE

The average life expectancy for Americans born in 1990 reached 75.4 years, and people who reached the age of 65 in 1990 could expect to live 17.2 additional years. However, healthy life, and not just life expectancy, must be measured in order develop a consistent disease prevention and health promotion message. This first of the three overarching goals of HEALTHY PEOPLE 2000 recognized the potential for healthy life to extend from birth beyond age 65 for all Americans, free from chronic, disabling diseases and conditions, preventable infections, and serious injury. Still, serious illness or injury, or loss of functional independence resulting from the cumulative effect of lesser impairments affecting an individual's ability to perform activities required for daily living, such as bathing, dressing, and eating, may diminish quality of life for older adults. As Figure 7 shows, approximately 15 percent of overall life expectancy are not healthy years. The unhealthy portion frequently occurs during the later years.

During 1988–90, the chronic conditions most frequently indicated as the main cause of activity limitation were arthritis (18.9 percent of all people with activity limitation), impairments of the lower extremities (8.9 percent), spinal curvatures or back impairments (8.7 percent), high blood pressure (8.3 percent), heart disease (7.1 percent), and intervertebral disk disorders (6.5 percent). For people under age 18, the most prevalent causes were asthma (22.9 percent), mental retardation (19.4 percent), speech impairments (7.8 percent), and hearing impairments (5.1 percent). For adults aged 18 to 44, spinal curvatures, intervertebral disk disorders, and other back impairments accounted for 37.8 percent of activity limitations. At older ages, arthritis, high blood pressure, and heart disease predominated as causes of activity limitation.

Figure 7. Years of Healthy Life as a Proportion of Life Expectancy, 1990



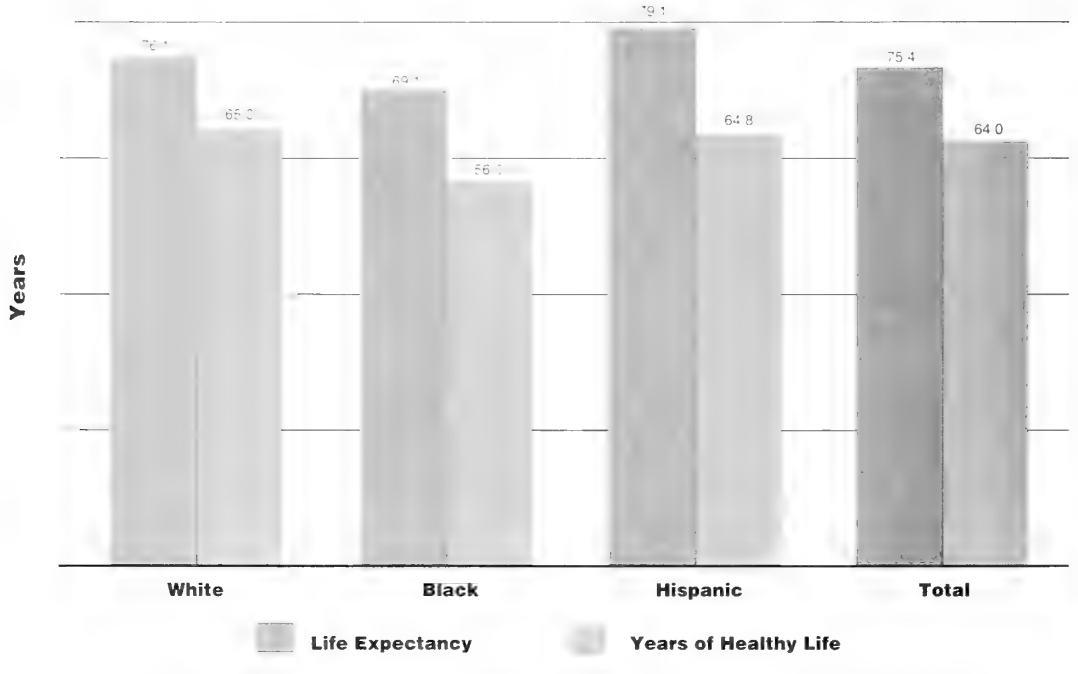
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System and National Health Interview Survey

Figure 8 combines the health status measures of healthy life and life expectancy at birth, comparing 1990 data for all races, whites, and blacks and preliminary data for Hispanics. The general population, whites, and Hispanics all can expect to live 85 percent of their lives in good health, compared to 81 percent for blacks. A similar gap exists in life expectancy between blacks, who have the lowest life expectancy at birth, and whites and Hispanics, who have similar life expectancy. Data for Hispanic life expectancy and years of healthy life yield a paradox, because Hispanics do not compare as favorably to the general population on many other key health indicators, including homicide, HIV infection, and access to health care.

Differences in death rates for leading causes of death, infant mortality rates, and prevalence of chronic and disabling conditions among population groups contribute to these differences across groups in health status. For example, infant mortality, premature death from heart disease and stroke, and prevalence of diabetes are key factors in the lower life expectancy and fewer years of healthy life experienced by blacks.

Comparisons from 1988–1990 for all-causes death rates for whites, Hispanics, and blacks in the 25–44 age group indicate that disparities in the span of healthy life have not been eliminated in the past decade: this rate was 16.1 percent higher among Hispanics than among whites and 143.6 percent higher among blacks as compared to whites. Socioeconomic causes are a major factor in this gap in health status, as poverty and near-poverty appear as underlying elements of many health problems that contribute to the excess mortality and higher prevalence of chronic conditions experienced by these groups.

Figure 8. Life Expectancy and Years of Healthy Life, by Race and Hispanic Origin, 1990



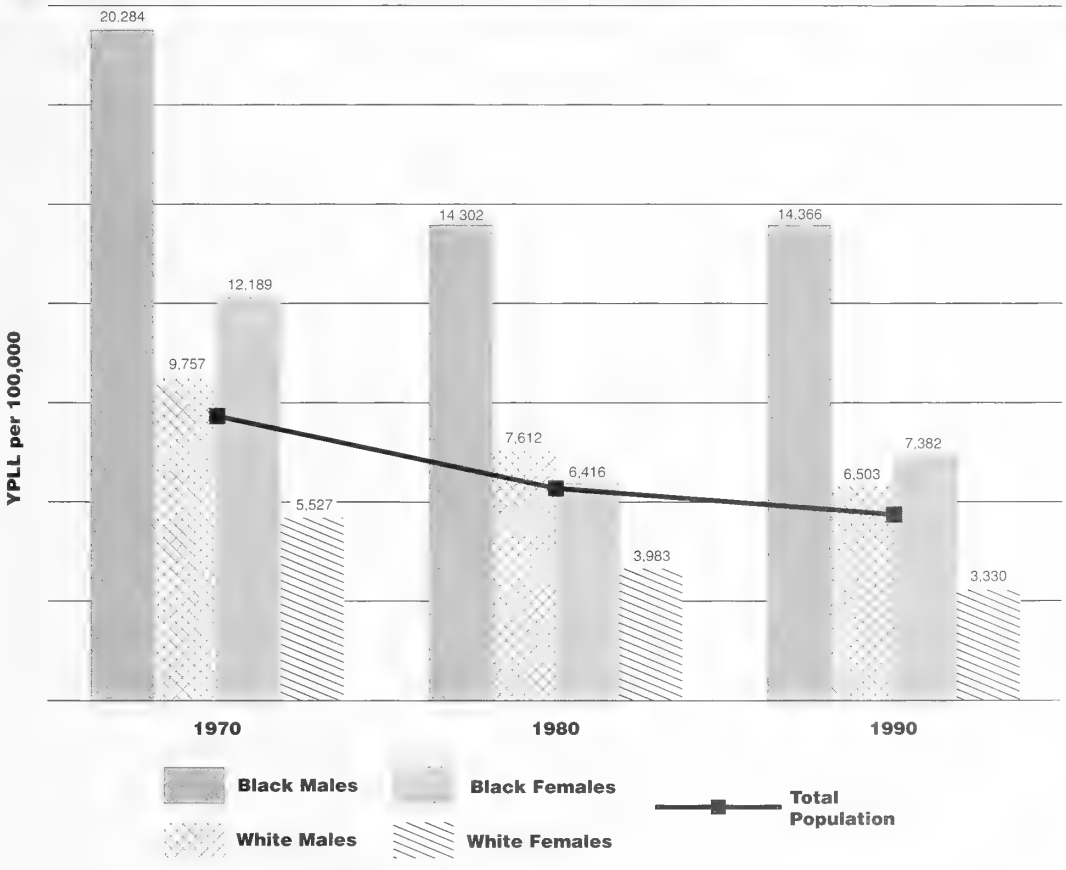
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System and National Health Interview Survey

Figure 9 measures years of potential life lost (YPLL) before age 65 due to premature death from disease and injury. Since 1970, the rate of years of potential life lost before age 65 for all races declined by 35 percent. This general decline has been mirrored among whites, but not among blacks. While the selected years shown in Figure 9 indicate a downward trend, albeit slow, among blacks, YPLL has increased in recent years among black males and females. The rate of YPLL for black males is consistently higher than for white males; in 1990, the rate was 2.2 times higher than for white males. The same can be said for the female rates of YPLL, with the YPLL rate for black females being 2.2 times as high as for white females.

Comparisons by race and sex for the three leading causes of death in 1990 show consistently higher YPLL rates for blacks than whites. For heart disease, black males suffered 64 percent higher YPLL than white males; and black females, 153 percent higher than for white females. For stroke, the YPLL rate for black males was 3 times as high; and for black females, almost 3 times as high. For cancer, the differences were smaller: 34 percent higher for black males and 17 percent higher for black females.

Other significant differences exist in YPLL by blacks compared to whites from homicide, HIV, and unintentional injuries. The 1990 YPLL rate among black males from homicide was over 8 times that of white males; for black females, the rate was over 5 times higher than for white females. For HIV, the rate for black males was almost 3 times as high; and for black females, almost 10 times as high. For accidents, the rate for black males was 27 percent higher; for black females, the rate was 24 percent higher. (See *Goal 2. Reduce Health Disparities.*)

Figure 9. Years of Potential Life Lost (YPLL) Before Age 65, by Race and Sex, Selected Years, 1970-1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

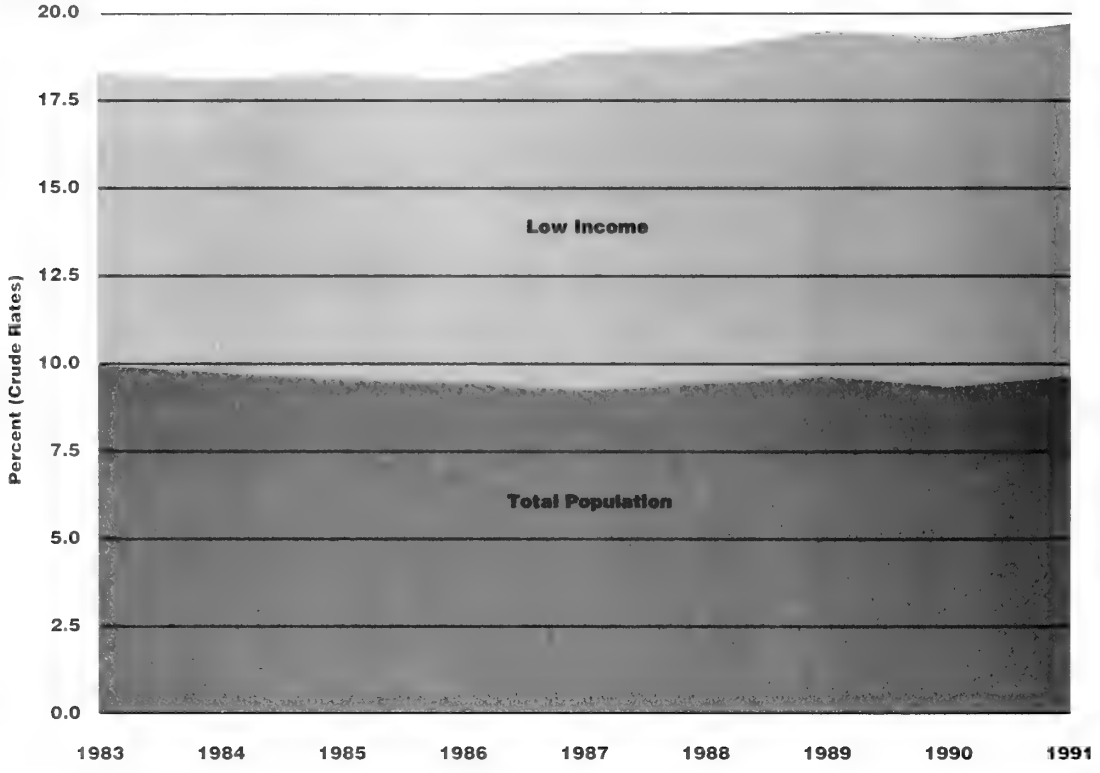
Limitation of major life activities such as self-care, recreation, school, and work due to chronic conditions and disabilities is a significant factor in determining years of healthy life. The prevalence of limitation of major activity (crude rates) among those at low income levels is twice that of the general population (Fig. 10). Low socioeconomic status and disability may influence each other because the existence of a major disability often leads to lower income. Age is another major factor in disability; in 1991, among those aged 65 and older, 37.9 percent experienced some limitation and 10.6 percent experienced complete limitation in major activity.

In 1991, 13.5 percent (age adjusted) of all Americans suffered physical or mental impairments that limited their activities in some manner, compared to 13.3 percent in 1986. This overall limitation in ability was not reflected in the category of people with functional limitations so severe that they could not perform major activities such as working, attending school, or maintaining a household, where prevalence increased from 3.7 percent in 1986 to 4 percent in 1991.

The proportion of people with family income less than $14,000 who experienced limitation of activity in 1991 was 24 percent, up from 23 percent in 1986; the largest portion of this increase was among those experiencing complete limitation of major activity. Among those with family income greater than $50,000, prevalence of limitation declined during the same period, from 9.6 to 9 percent.

In addition to the 4 percent of the total population who were unable to perform a major activity (e.g., play, school, work, or self-care) in 1991, about 5.2 percent experienced some limitation in performing major activities and over 4 percent were limited in nonmajor activities. Estimates of the number of people with chronic, significant disabilities producing limitation of activity vary from 34 million to 43 million. Many more people, of course, have impairments that are not yet, but could become, disabling; still more have chronic conditions, such as hypertension or alcoholism, that can lead to impairment and disability. Many people have several disabling conditions.

Figure 10. Percentage of People Experiencing Limitation of Major Activity Caused by Chronic Conditions, Total and Low-Income Populations, 1983–1991



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

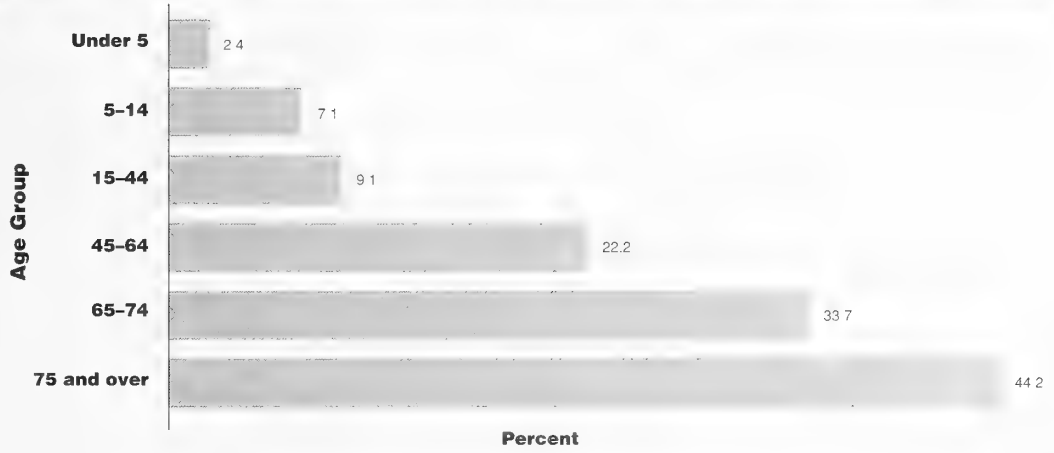
Activity limitations are most common among the poor, those who are less educated, and older people. In 1991, people in families with incomes of less than $14,000 a year were almost twice as likely as the total population to experience limitation of activity because of their health (Fig. 11), and 2.5 times as likely to be unable to carry on major life activities. Activity limitations were 4 times as common among people with 8 years or less of education than among those with 16 years or more. Among Americans aged 45–64, 22.2 percent experienced some limitation of activity (Fig. 12), versus 13.5 percent of the total population. Among those aged 65 and older, 37.9 percent experienced some limitation.

The data presented above indicate that the prevalence of disability increases with age, resulting in a greater need for assistance in activities of daily living among older adults. About 22 percent of people aged 65 and older were limited in one or more major activities in 1991, and nearly half of those aged 85 and older needed assistance in activities of daily living. People aged 65 and older experienced an average of 8.8 restricted activity days per year, versus 7.4 days for the total population.

Figure 11. Percentage of People Experiencing Limitation of Activity Caused by Chronic Conditions, by Family Income Level, 1991

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

Figure 12. Percentage of People Experiencing Limitation of Activity Caused by Chronic Conditions, by Age, 1991



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

GOAL 2. REDUCE HEALTH DISPARITIES

Achieving a healthier America depends upon significant improvements in the health of population groups that now are at the highest risk of premature death, disease, and disability. Although health statistics that take race and ethnicity into account are limited, the existing data leave no doubt that disparities exist. A future challenge is for data to link factors such as socioeconomic status, educational attainment, race, gender, age, and health status so that prevention strategies can be most effective.

Special attention is needed to close the gaps that exist between the general population and specific population groups. Whether the issue is chronic diseases, infectious diseases, unintentional injuries, or violence-related injuries, the services and protection that might effectively bring about improvements in their circumstances must be made available. The greatest opportunities for improvement in, and the greatest threats to, the future health status of the Nation reside in population groups that historically have been disadvantaged economically, educationally, and politically. A particularly sensitive and compelling measure of disparity is infant mortality. Although America's infant mortality rate is at an all-time low, a persistent racial gap remains. Black infants continue to die at more than twice the rate of white infants, and the gap has increased in recent years.

Statistics on years of healthy life also reflect differences among racial and ethnic groups in the United States. Similarly, rates of disability, measured in terms of limitation of activity, confirm the inequities in health status. The pattern of disparity in life expectancy and years of healthy life continues in mortality from major causes. Members of minorities, individuals with low income, and other specific populations suffer higher rates of mortality from certain causes than the total population.

Blacks made up 11.7 percent of the U.S. population in 1990, thereby constituting the Nation's largest minority group. Members of this group live in all regions of the country and are represented in every socioeconomic group. However, a third of all black people live in poverty, a rate almost 3 times that of the overall population. Over half live in central cities, in areas often typified by poverty, poor schools, crowded housing, high unemployment, exposure to a pervasive drug culture and street violence, and generally high levels of stress.

Life expectancy for black people has lagged behind that of the total population throughout this century. Since the mid-1980s, the gap has widened, with the life expectancy for the overall population rising to 75.4 years in 1990 while black life expectancy stood at 69.1 years (after reaching a high of 69.5 in 1984). Life expectancy is only one statistic among many others defining gaps that contribute to general health status: blacks face higher heart disease death rates, higher stroke death rates, higher homicide rates, higher HIV death rates, and higher infant mortality rates. Comparisons of death rates among whites and blacks in 1990 for the leading causes of death reveal consistent and significant disparities. In fact, the age-adjusted mortality rates for blacks are higher than whites for 13 of the 15 leading causes of deaths.

The Hispanic American population—Mexican Americans, Puerto Ricans, Cuban Americans, Central and South American immigrants, and other immigrants of Latin American culture or origin—is the second largest minority group in the United States. In 1990, Hispanic Americans constituted about 9 percent of the total population. Between 1980 and 1990, the Hispanic population increased 53 percent, making this the second fastest growing minority group. (Asians/Pacific Islanders increased 95 percent.)

The Hispanic population presents a set of health issues more varied because of its composition. Heart disease and cancer were the causes of highest mortality for both Hispanics and the overall population, but caused a smaller share of total deaths among Hispanics. Some of the widest differences in health status between Hispanics and non-Hispanic whites were seen in greater Hispanic death rates for homicide, cirrhosis, HIV, and diabetes. There are also differences in health status among the Hispanic subgroups. For example, within the Hispanic population, Cubans have higher cancer rates, Mexicans have higher death rates for cirrhosis, and Puerto Ricans have higher rates for stroke.

The diversity that characterizes the Nation's third largest minority group, the more than 7 million Asian and Pacific Islander Americans, is striking. While health outcomes of those born within the United States and established here for generations are virtually indistinguishable from the general population, the health of others, particularly recent immigrants, is extremely poor. Consequently, within this minority population, the overall health indicators often do not show the whole picture. The relatively small size of this minority group and the lack of data on subgroups within it, including persons of Chinese, Japanese, Filipino, Korean, Samoan, Vietnamese, Thai, Cambodian, Laotian, Hawaiian, and other Pacific Island origin, also make assessment of leading causes of death, disease, and disability difficult.

Existing data do show certain differences in risk among Asians and Pacific Islanders. Heart disease and cancer were the leading causes of death for Asians and Pacific Islanders in 1990, as was the case for the general population. Infectious diseases such as hepatitis B and tuberculosis, however, also have very high incidence rates among this population, particularly among recent Southeast Asian immigrants. Other causes of death that have seen increases among many parts of the population—homicide, suicide, and HIV infection—remained lower among Asians and Pacific Islanders.

Descendants of the original residents of North America, American Indians and Alaska Natives, compose the smallest of the defined minority groups. Diversity characterizes this group, too: it encompasses over 400 federally recognized nations, each with its own traditions and cultural heritage. Eskimos, Aleuts, and Indians residing in Alaska are referred to as Alaska Natives; those residing in other States are referred to as American Indians. The Federal Government collects detailed data annually on American Indians and Alaska Natives in 33 States that include reservations.

In general, the American Indian and Alaska Native population is youthful. The median age of those living in the reservation States is about 23, compared to over 32 for the general population. Income and educational levels tend to be low, with more than 30 percent living below the poverty level and only 9.3 percent having college degrees. One reason for the youthfulness of the population is the large proportion who die before the age of 45. Comparison of death rates in 1990 for American Indians and Alaska Natives with national rates for whites reveals substantial disparities. Most excess deaths can

be traced to six causes: unintentional injuries, cirrhosis, homicide, suicide, pneumonia, and diabetes. Cirrhosis contributes significantly to death and disability in this population group; among American Indians, the 1990 rate was 2.5 times the rate for whites. Diabetes was another chronic disease disproportionately affecting American Indians, with a 1990 rate 1.5 times the rate for whites. The pneumonia death rate was also 13 percent higher than among whites.

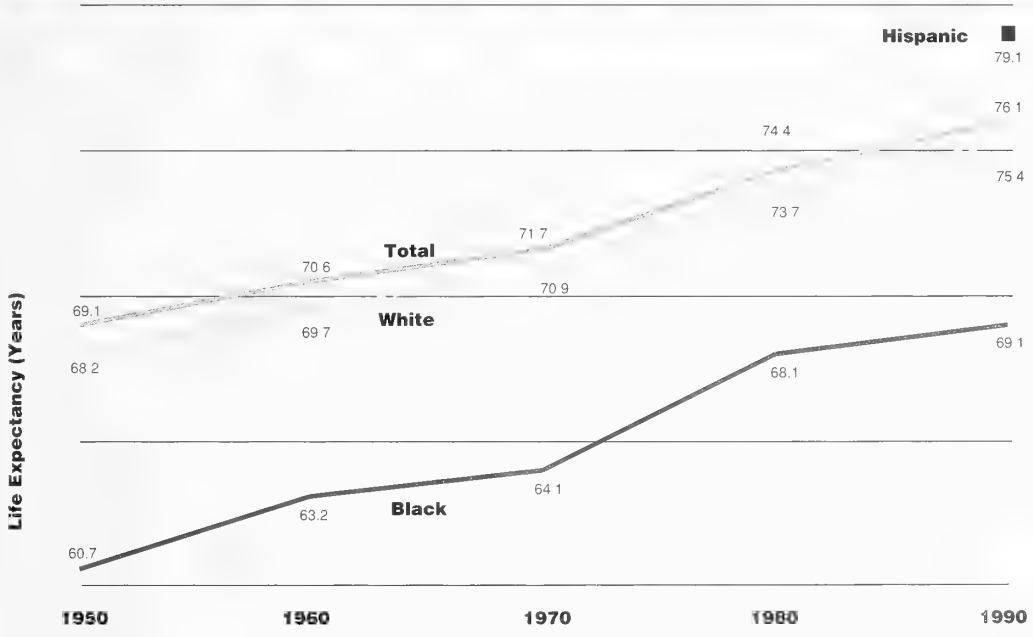
The next section compares rates for leading health indicators among whites and other racial and ethnic groups, shedding light on the differing health profiles.

LIFE EXPECTANCY AT BIRTH, BY RACE, 1950–1990

Figure 13 displays the life expectancies for selected years from 1950 through 1990 by race, to the extent data allow. All life expectancies have increased considerably since 1950, but disparities persist for the black population. The increase in life expectancy since 1950 for the total population has been 10.1 percent since 1950; for whites, 10.5 percent; and for blacks, 13.8 percent. Although the overall disparity between blacks and other population groups has decreased during the last four decades, between 1980 and 1990 the gap actually widened. The difference in life expectancy between blacks and whites was 6.3 years in 1990, versus 5.6 years in 1980, 6.8 years in 1970, 6.5 years in 1960, and 7.5 years in 1950.

The 1990 Hispanic life expectancy (preliminary data) was 79.1 years, which compared very favorably with the rest of the population. Life expectancy data for Hispanics generally reflect the mortality experience of Mexican Americans, the largest sub-group. More extensive data on different Hispanic subgroups is required to evaluate accurately their varied health profiles: for example, Puerto Ricans appear to have worse health status and higher mortality than non-Hispanic whites. In addition, Mexican Americans born in the United States appear to have worse health status than Mexican immigrants.

Figure 13. Life Expectancy at Birth, by Race, Selected Years, 1950–1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

INFANT MORTALITY RATES, BY RACE AND HISPANIC ORIGIN, 1983–1987

Perhaps the most compelling measure of disparity is infant mortality: although America's infant mortality rate reached an all-time low of 9.2 per 1,000 live births in 1990, there remained persistent gaps among populations. Poor pregnancy outcomes, including prematurity, low birth weight, birth defects, and infant death, are linked to low income, low educational level, low occupational status, and other indicators of social and economic disadvantage. Despite this link, race often must serve as a proxy measure for economic status in vital statistics data collection and analysis.

Significant reductions in the U.S. infant mortality rate (IMR) will depend upon closing the gap between IMRs for whites and minority populations. For example, the IMR for blacks was 18 in 1990, or 2.4 times that of whites, and IMRs for some American Indian tribes and for Puerto Ricans were also considerably higher than for white infants. Data offering the most reliable comparison of IMRs for a broad range of racial groups are those from the National Linked Files of Live Births and Infant Deaths for the 1983–1987 birth cohorts (Fig. 14). These data show general improvement in the major population groups—whites, blacks, American Indians and Alaska Natives, Asians and Pacific Islanders, and Hispanics—but little change in relative disparity.

In 1983, the ratio of the white IMR to that of American Indians and Alaska Natives was 1 to 1.6. Comparable reductions in IMRs for both groups by 1987 left the relative gap almost unchanged. The relative gap between whites and blacks actually increased slightly from 1983 to 1987, and in 1990 it was higher still at 1 to 2.4. Among Hispanics, Puerto Ricans had the highest IMR in 1986—1.4 times that of whites. By 1987, the Puerto Rican IMR had declined to only 1.2 times the white IMR. The overall IMR among Asians and Pacific Islanders has generally been equal to or below that of whites, although low numbers of total births affect the comparability of data over time.

Data Table for Figure 14

	1983	1984	1985	1986	1987
Total	10.9%	10.4%	10.4%	10.1%	9.8%
American Indian	15.2	13.4	13.1	13.9	13.0
Asian-Pacific Islander	8.3	8.9	7.8	7.8	7.3
Black	19.2	18.2	18.6	18.2	17.8
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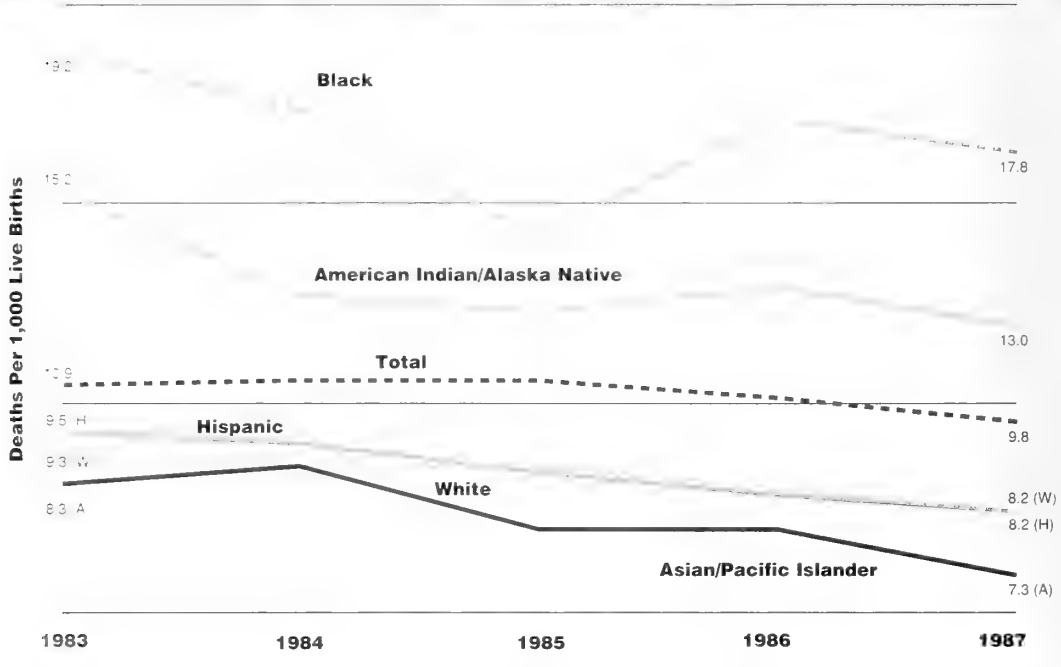


Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Linked Files of Live Births and Infant Deaths

HEART DISEASE

The heart disease death rate has fallen 25 percent since 1980 and 40 percent since 1970. In 1990, however, heart disease was still the leading cause of death, accounting for 720,058 deaths among Americans. It also cost Americans almost 1.4 million years of potential life lost in 1990 and over $40 billion in direct and indirect costs.

Many factors combine to determine whether a person will develop coronary heart disease and also how rapidly atherosclerosis progresses. Genetic predisposition, gender, and advancing age are recognized factors over which individuals have no control. Key modifiable risk factors include cigarette smoking, high blood cholesterol, high blood pressure, excessive body weight, and long-term physical inactivity. Control of each of these modifiable risk factors is important in the prevention of coronary heart disease. People with diabetes, who are especially prone to vascular disease, may also benefit by controlling these factors. Risk reduction in those who already suffer from coronary heart disease and are at risk of having another coronary event is also of great importance.

Cigarette smokers are at increased risk for fatal and nonfatal heart attacks and for sudden death. Smokers have a 70-percent greater coronary heart disease rate, a twofold to fourfold greater incidence of coronary heart disease, and a twofold to fourfold greater risk for sudden death than nonsmokers.

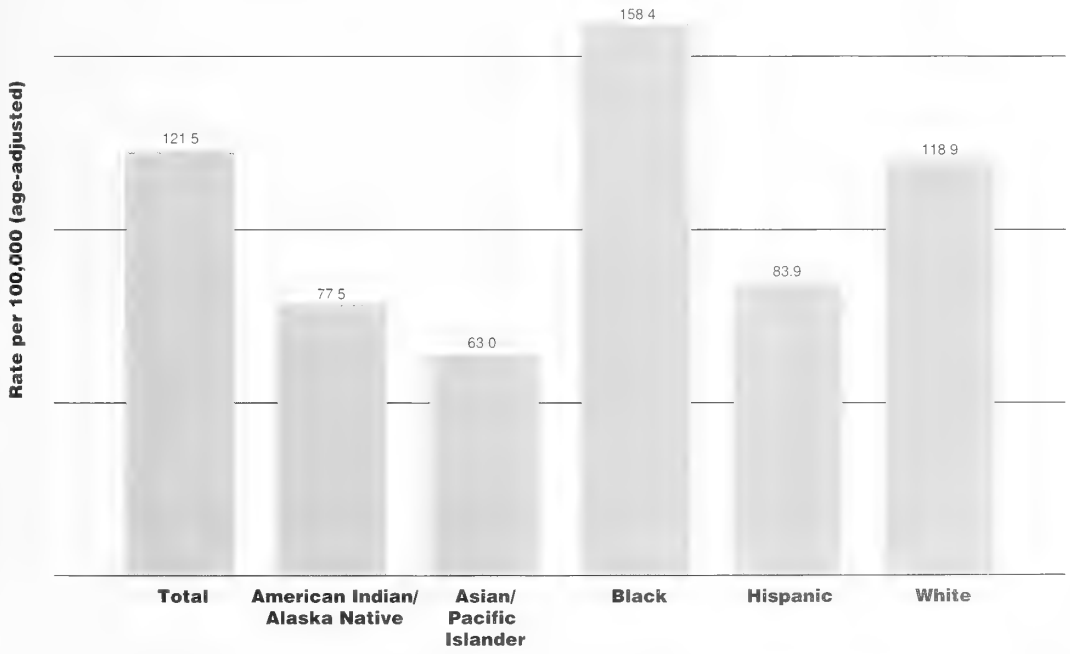
Elevated blood cholesterol levels are associated with a higher incidence of coronary heart disease, and reducing both the mean serum cholesterol level and the proportion of people with high blood cholesterol can have an important impact on morbidity and mortality rates for coronary heart disease. Each 1-percent reduction in serum cholesterol level has been associated with 2-percent reduction in heart disease death.

Overweight is a risk factor for high blood pressure, high blood cholesterol, diabetes, and coronary heart disease. Physical inactivity affects multiple risk factors and also increases the risk of coronary heart disease.

HEALTHY PEOPLE 2000 set as an objective a 26-percent reduction in heart disease deaths—to no more than 100 per 100,000 people—by the year 2000. A specific population target was also set for blacks at 115 per 100,000, a 29-percent reduction. Figure 15 shows the 1990 death rates for coronary heart disease for the general population as well as for specific population groups.

Figure 15. Death Rates for Coronary Heart Disease, by Race and Hispanic Origin, 1990

Objective 15.1
Reduce coronary heart disease deaths to no more than 100 per 100,000 people.



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

Coronary heart disease death rates are higher among men than among women and are higher among blacks than among the rest of the population. In 1990, the death rate due to coronary heart disease was more than 30 percent higher for blacks than the overall population rate and was almost 35 percent higher than for whites, the next highest specific population rate. Hispanics, Asians and Pacific Islanders, and American Indians and Alaska Natives all had lower death rates for coronary heart disease compared to the overall rate.

Note: The chart and objective for coronary heart disease discussed in this section use different *International Classification of Diseases, Ninth Revision* (ICD-9) codes than the mortality rates discussed earlier. See "Cause-of-death Terminology—Codes," *Health, United States, 1992 and Healthy People 2000 Review*, page 241.

CANCER

Cancer accounts for almost one of every four deaths in the United States. In 1990, 505,322 Americans died of cancer, making it the second leading cause of death overall. Cancer cost the United States approximately $104 billion in 1990 in direct and indirect costs, as well as 1.9 million years of potential life lost. In 1993, almost 1,170,000 new cancer cases were expected, not including carcinoma in situ and basal and squamous cell skin cancers. The incidence of these skin cancers, approximately 90 percent of which are preventable, is estimated to be over 700,000 cases annually.

The potential for reducing cancer incidence and mortality through primary prevention and early detection strategies is large. More than 30 percent of cancer deaths are due to cigarette smoking, a cause that could be eliminated through prevention and control efforts. Early detection and intervention can significantly reduce cancer mortality for some cancers. Accordingly, HEALTHY PEOPLE 2000 set objectives for cancer that focus on those areas of cancer prevention and detection with the greatest potential for reducing cancer incidence, morbidity, and mortality. The targets include reduction of tobacco use, dietary change, and improvements in early detection.

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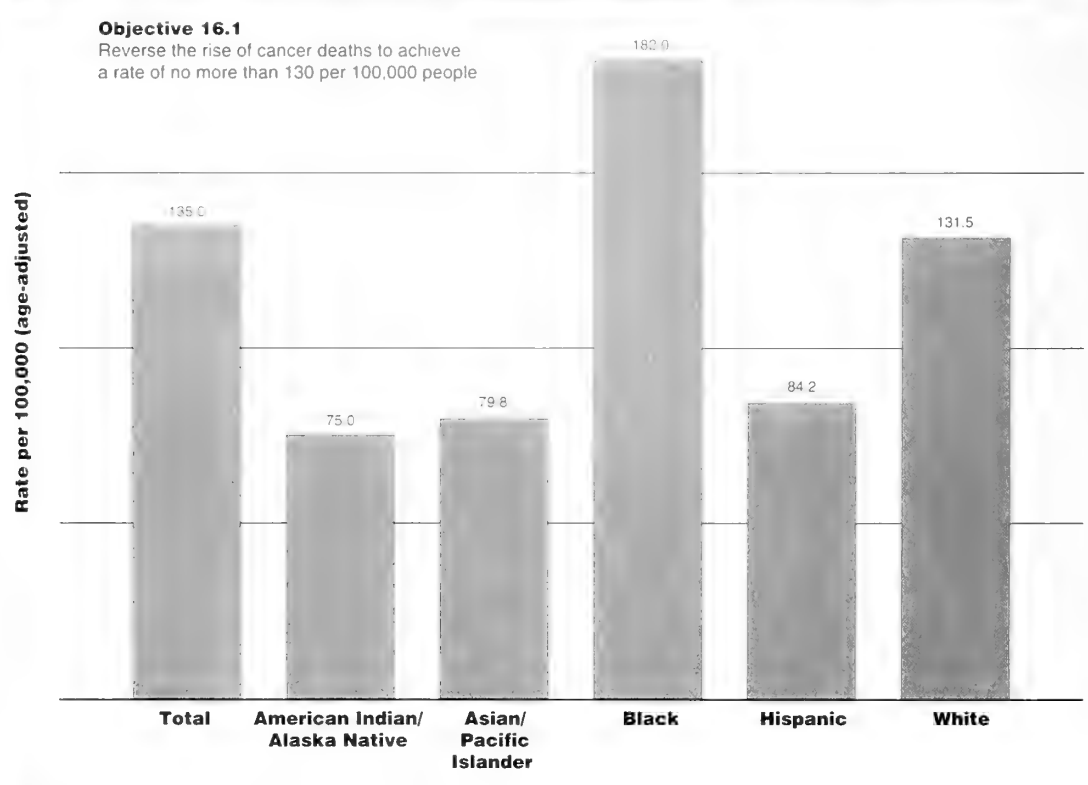


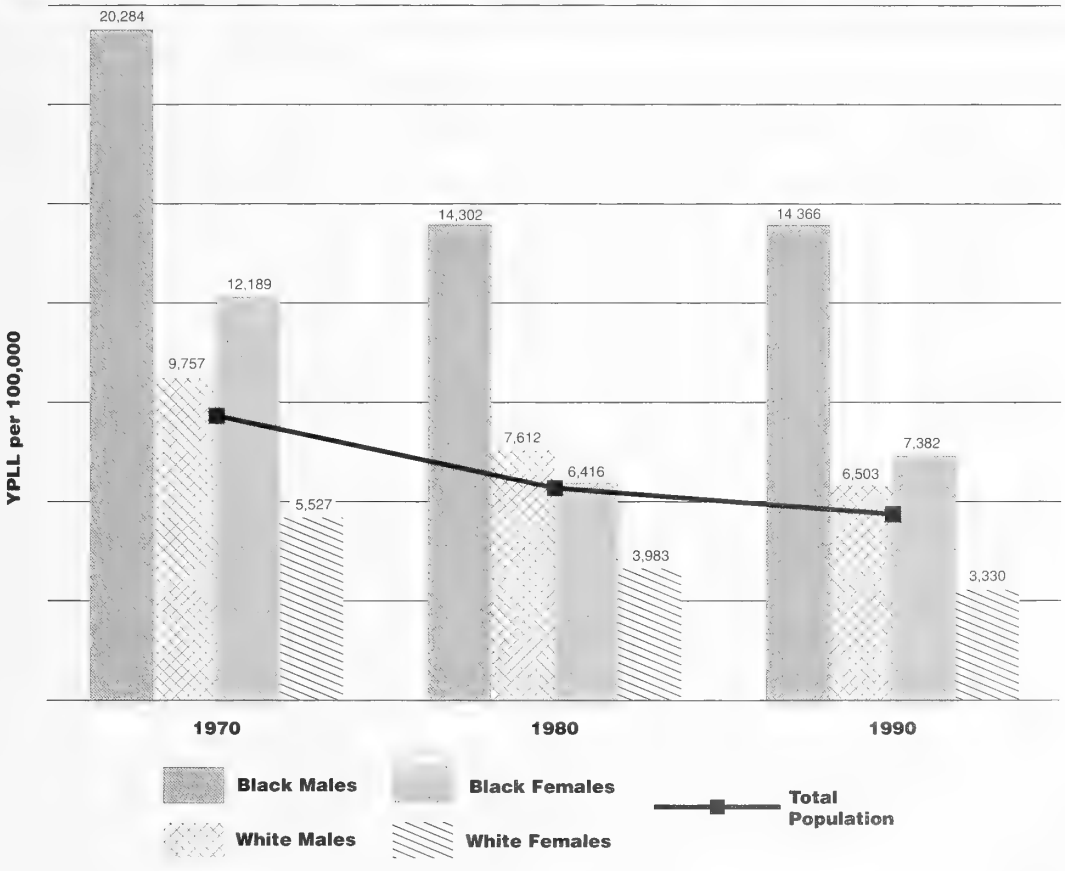
Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

Figure 9 measures years of potential life lost (YPLL) before age 65 due to premature death from disease and injury. Since 1970, the rate of years of potential life lost before age 65 for all races declined by 35 percent. This general decline has been mirrored among whites, but not among blacks. While the selected years shown in Figure 9 indicate a downward trend, albeit slow, among blacks, YPLL has increased in recent years among black males and females. The rate of YPLL for black males is consistently higher than for white males; in 1990, the rate was 2.2 times higher than for white males. The same can be said for the female rates of YPLL, with the YPLL rate for black females being 2.2 times as high as for white females.

Comparisons by race and sex for the three leading causes of death in 1990 show consistently higher YPLL rates for blacks than whites. For heart disease, black males suffered 64 percent higher YPLL than white males; and black females, 153 percent higher than for white females. For stroke, the YPLL rate for black males was 3 times as high; and for black females, almost 3 times as high. For cancer, the differences were smaller: 34 percent higher for black males and 17 percent higher for black females.

Other significant differences exist in YPLL by blacks compared to whites from homicide, HIV, and unintentional injuries. The 1990 YPLL rate among black males from homicide was over 8 times that of white males; for black females, the rate was over 5 times higher than for white females. For HIV, the rate for black males was almost 3 times as high; and for black females, almost 10 times as high. For accidents, the rate for black males was 27 percent higher; for black females, the rate was 24 percent higher. (See *Goal 2. Reduce Health Disparities.*)

Figure 9. Years of Potential Life Lost (YPLL) Before Age 65, by Race and Sex, Selected Years, 1970–1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

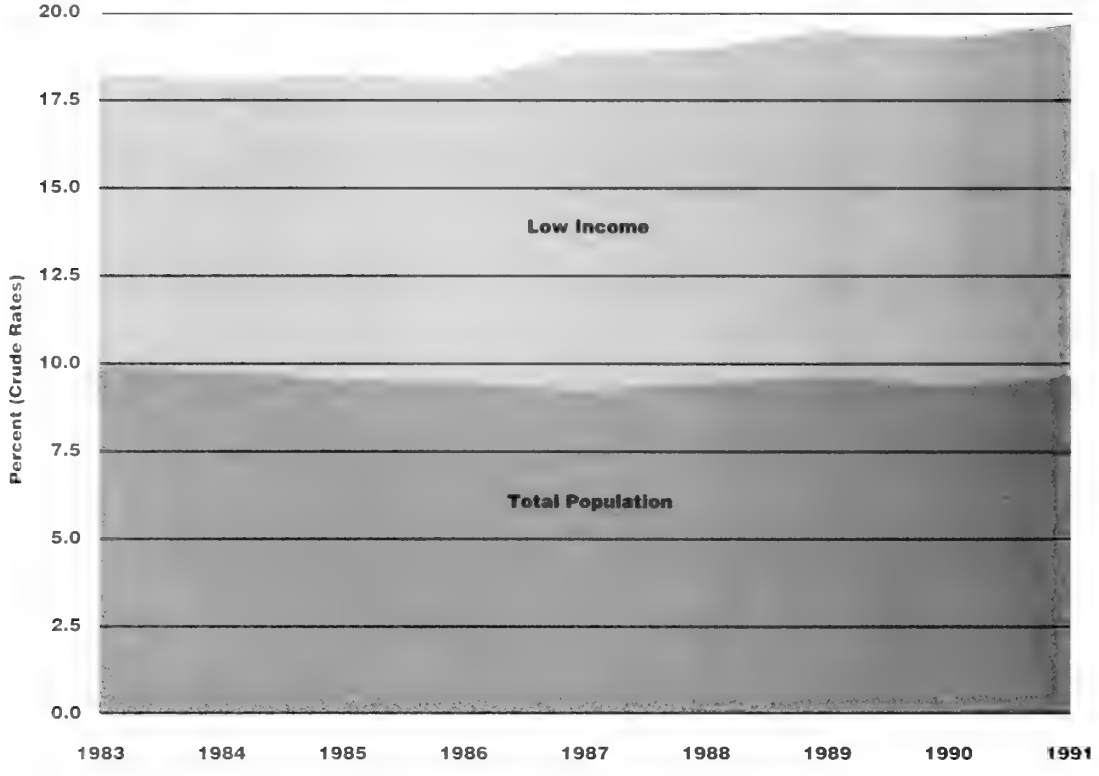
Limitation of major activities such as self-care, recreation, school, and work due to chronic conditions and disabilities is a significant factor in determining years of healthy life. The prevalence of limitation of major activity (crude rates) among those at low income levels is twice that of the general population (Fig. 10). Low socioeconomic status and disability may influence each other because the existence of a major disability often leads to lower income. Age is another major factor in disability; in 1991, among those aged 65 and older, 37.9 percent experienced some limitation and 10.6 percent experienced complete limitation in major activity.

In 1991, 13.5 percent (age adjusted) of all Americans suffered physical or mental impairments that limited their activities in some manner, compared to 13.3 percent in 1986. This overall limitation in ability was not reflected in the category of people with functional limitations so severe that they could not perform major activities such as working, attending school, or maintaining a household, where prevalence increased from 3.7 percent in 1986 to 4 percent in 1991.

The proportion of people with family income less than $14,000 who experienced limitation of activity in 1991 was 24 percent, up from 23 percent in 1986; the largest portion of this increase was among those experiencing complete limitation of major activity. Among those with family income greater than $50,000, prevalence of limitation declined during the same period, from 9.6 to 9 percent.

In addition to the 4 percent of the total population who were unable to perform a major activity (e.g., play, school, work, or self-care) in 1991, about 5.2 percent experienced some limitation in performing major activities and over 4 percent were limited in nonmajor activities. Estimates of the number of people with chronic, significant disabilities producing limitation of activity vary from 34 million to 43 million. Many more people, of course, have impairments that are not yet, but could become, disabling; still more have chronic conditions, such as hypertension or alcoholism, that can lead to impairment and disability. Many people have several disabling conditions.

Figure 10. Percentage of People Experiencing Limitation of Major Activity Caused by Chronic Conditions, Total and Low-Income Populations, 1983–1991

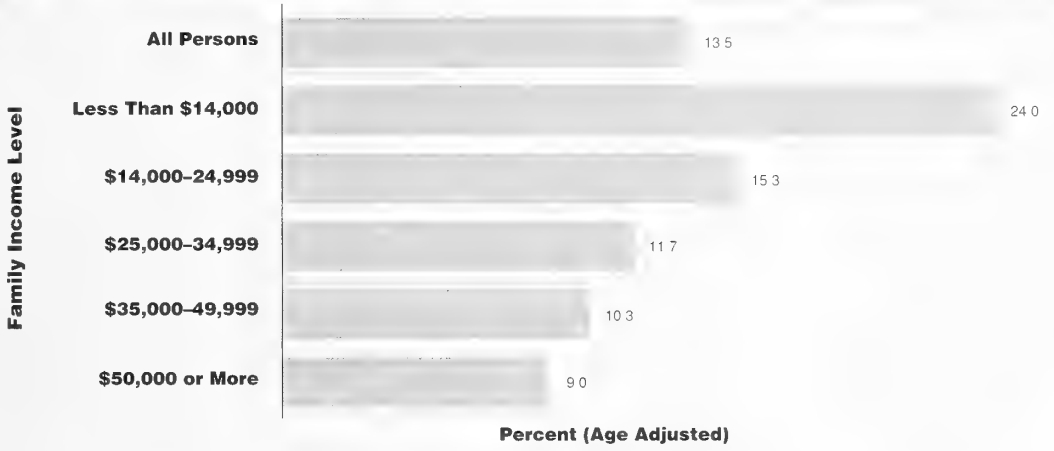


Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

Activity limitations are most common among the poor, those who are less educated, and older people. In 1991, people in families with incomes of less than $14,000 a year were almost twice as likely as the total population to experience limitation of activity because of their health (Fig. 11), and 2.5 times as likely to be unable to carry on major life activities. Activity limitations were 4 times as common among people with 8 years or less of education than among those with 16 years or more. Among Americans aged 45–64, 22.2 percent experienced some limitation of activity (Fig. 12), versus 13.5 percent of the total population. Among those aged 65 and older, 37.9 percent experienced some limitation.

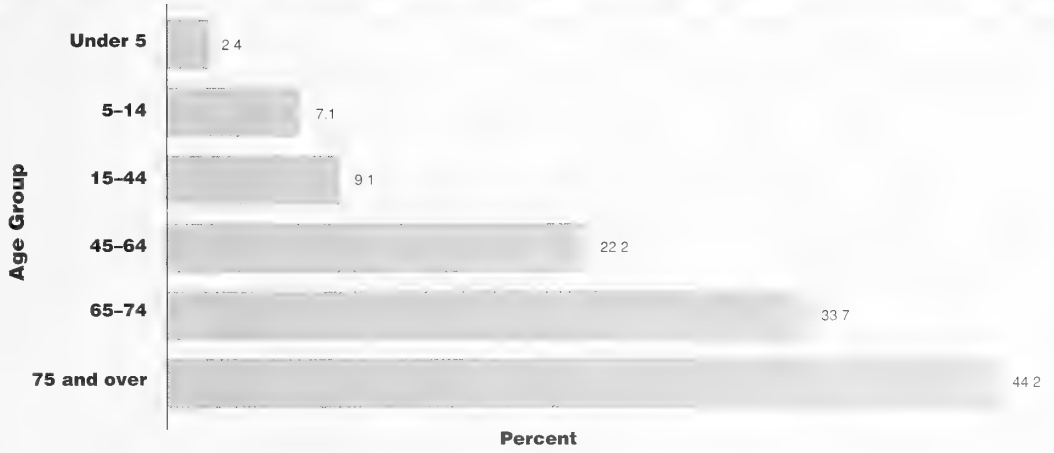
The data presented above indicate that the prevalence of disability increases with age, resulting in a greater need for assistance in activities of daily living among older adults. About 22 percent of people aged 65 and older were limited in one or more major activities in 1991, and nearly half of those aged 85 and older needed assistance in activities of daily living. People aged 65 and older experienced an average of 8.8 restricted activity days per year, versus 7.4 days for the total population.

Figure 11. Percentage of People Experiencing Limitation of Activity Caused by Chronic Conditions, by Family Income Level, 1991



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

Figure 12. Percentage of People Experiencing Limitation of Activity Caused by Chronic Conditions, by Age, 1991



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

GOAL 2. REDUCE HEALTH DISPARITIES

Achieving a healthier America depends upon significant improvements in the health of population groups that now are at the highest risk of premature death, disease, and disability. Although health statistics that take race and ethnicity into account are limited, the existing data leave no doubt that disparities exist. A future challenge is for data to link factors such as socioeconomic status, educational attainment, race, gender, age, and health status so that prevention strategies can be most effective.

Special attention is needed to close the gaps that exist between the general population and specific population groups. Whether the issue is chronic diseases, infectious diseases, unintentional injuries, or violence-related injuries, the services and protection that might effectively bring about improvements in their circumstances must be made available. The greatest opportunities for improvement in, and the greatest threats to, the future health status of the Nation reside in population groups that historically have been disadvantaged economically, educationally, and politically. A particularly sensitive and compelling measure of disparity is infant mortality. Although America's infant mortality rate is at an all-time low, a persistent racial gap remains. Black infants continue to die at more than twice the rate of white infants, and the gap has increased in recent years.

Statistics on years of healthy life also reflect differences among racial and ethnic groups in the United States. Similarly, rates of disability, measured in terms of limitation of activity, confirm the inequities in health status. The pattern of disparity in life expectancy and years of healthy life continues in mortality from major causes. Members of minorities, individuals with low income, and other specific populations suffer higher rates of mortality from certain causes than the total population.

Blacks made up 11.7 percent of the U.S. population in 1990, thereby constituting the Nation's largest minority group. Members of this group live in all regions of the country and are represented in every socioeconomic group. However, a third of all black people live in poverty, a rate almost 3 times that of the overall population. Over half live in central cities, in areas often typified by poverty, poor schools, crowded housing, high unemployment, exposure to a pervasive drug culture and street violence, and generally high levels of stress.

Life expectancy for black people has lagged behind that of the total population throughout this century. Since the mid-1980s, the gap has widened, with the life expectancy for the overall population rising to 75.4 years in 1990 while black life expectancy stood at 69.1 years (after reaching a high of 69.5 in 1984). Life expectancy is only one statistic among many others defining gaps that contribute to general health status: blacks face higher heart disease death rates, higher stroke death rates, higher homicide rates, higher HIV death rates, and higher infant mortality rates. Comparisons of death rates among whites and blacks in 1990 for the leading causes of death reveal consistent and significant disparities. In fact, the age-adjusted mortality rates for blacks are higher than whites for 13 of the 15 leading causes of deaths.

The Hispanic American population—Mexican Americans, Puerto Ricans, Cuban Americans, Central and South American immigrants, and other immigrants of Latin American culture or origin—is the second largest minority group in the United States. In 1990, Hispanic Americans constituted about 9 percent of the total population. Between 1980 and 1990, the Hispanic population increased 53 percent, making this the second fastest growing minority group. (Asians/Pacific Islanders increased 95 percent.)

The Hispanic population presents a set of health issues more varied because of its composition. Heart disease and cancer were the causes of highest mortality for both Hispanics and the overall population, but caused a smaller share of total deaths among Hispanics. Some of the widest differences in health status between Hispanics and non-Hispanic whites were seen in greater Hispanic death rates for homicide, cirrhosis, HIV, and diabetes. There are also differences in health status among the Hispanic subgroups. For example, within the Hispanic population, Cubans have higher cancer rates, Mexicans have higher death rates for cirrhosis, and Puerto Ricans have higher rates for stroke.

The diversity that characterizes the Nation's third largest minority group, the more than 7 million Asian and Pacific Islander Americans, is striking. While health outcomes of those born within the United States and established here for generations are virtually indistinguishable from the general population, the health of others, particularly recent immigrants, is extremely poor. Consequently, within this minority population, the overall health indicators often do not show the whole picture. The relatively small size of this minority group and the lack of data on subgroups within it, including persons of Chinese, Japanese, Filipino, Korean, Samoan, Vietnamese, Thai, Cambodian, Laotian, Hawaiian, and other Pacific Island origin, also make assessment of leading causes of death, disease, and disability difficult.

Existing data do show certain differences in risk among Asians and Pacific Islanders. Heart disease and cancer were the leading causes of death for Asians and Pacific Islanders in 1990, as was the case for the general population. Infectious diseases such as hepatitis B and tuberculosis, however, also have very high incidence rates among this population, particularly among recent Southeast Asian immigrants. Other causes of death that have seen increases among many parts of the population—homicide, suicide, and HIV infection—remained lower among Asians and Pacific Islanders.

Descendants of the original residents of North America, American Indians and Alaska Natives, compose the smallest of the defined minority groups. Diversity characterizes this group, too: it encompasses over 400 federally recognized nations, each with its own traditions and cultural heritage. Eskimos, Aleuts, and Indians residing in Alaska are referred to as Alaska Natives; those residing in other States are referred to as American Indians. The Federal Government collects detailed data annually on American Indians and Alaska Natives in 33 States that include reservations.

In general, the American Indian and Alaska Native population is youthful. The median age of those living in the reservation States is about 23, compared to over 32 for the general population. Income and educational levels tend to be low, with more than 30 percent living below the poverty level and only 9.3 percent having college degrees. One reason for the youthfulness of the population is the large proportion who die before the age of 45. Comparison of death rates in 1990 for American Indians and Alaska Natives with national rates for whites reveals substantial disparities. Most excess deaths can

be traced to six causes: unintentional injuries, cirrhosis, homicide, suicide, pneumonia, and diabetes. Cirrhosis contributes significantly to death and disability in this population group; among American Indians, the 1990 rate was 2.5 times the rate for whites. Diabetes was another chronic disease disproportionately affecting American Indians, with a 1990 rate 1.5 times the rate for whites. The pneumonia death rate was also 13 percent higher than among whites.

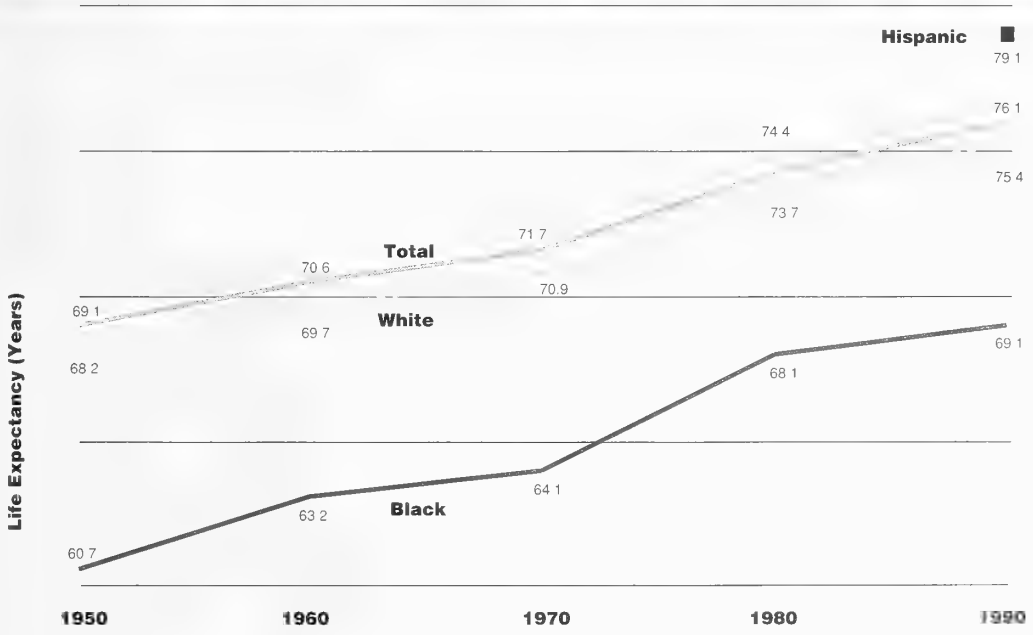
The next section compares rates for leading health indicators among whites and other racial and ethnic groups, shedding light on the differing health profiles.

LIFE EXPECTANCY AT BIRTH, BY RACE, 1950–1990

Figure 13 displays the life expectancies for selected years from 1950 through 1990 by race, to the extent data allow. All life expectancies have increased considerably since 1950, but disparities persist for the black population. The increase in life expectancy since 1950 for the total population has been 10.1 percent since 1950; for whites, 10.5 percent; and for blacks, 13.8 percent. Although the overall disparity between blacks and other population groups has decreased during the last four decades, between 1980 and 1990 the gap actually widened. The difference in life expectancy between blacks and whites was 6.3 years in 1990, versus 5.6 years in 1980, 6.8 years in 1970, 6.5 years in 1960, and 7.5 years in 1950.

The 1990 Hispanic life expectancy (preliminary data) was 79.1 years, which compared very favorably with the rest of the population. Life expectancy data for Hispanics generally reflect the mortality experience of Mexican Americans, the largest sub-group. More extensive data on different Hispanic subgroups is required to evaluate accurately their varied health profiles: for example, Puerto Ricans appear to have worse health status and higher mortality than non-Hispanic whites. In addition, Mexican Americans born in the United States appear to have worse health status than Mexican immigrants.

Figure 13. Life Expectancy at Birth, by Race, Selected Years, 1950–1990



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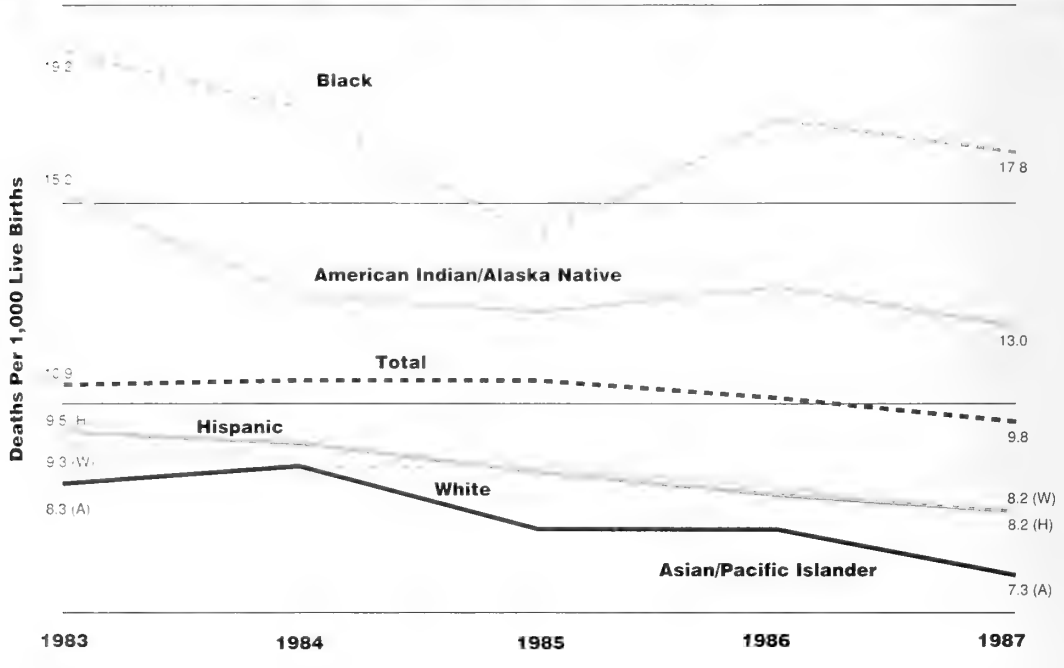

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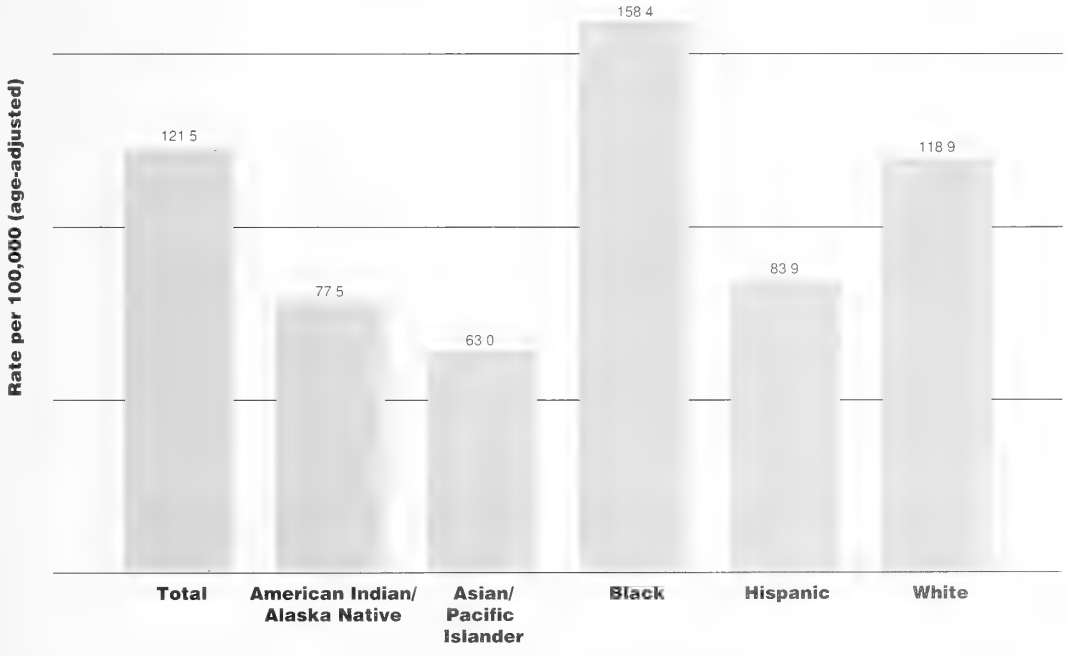

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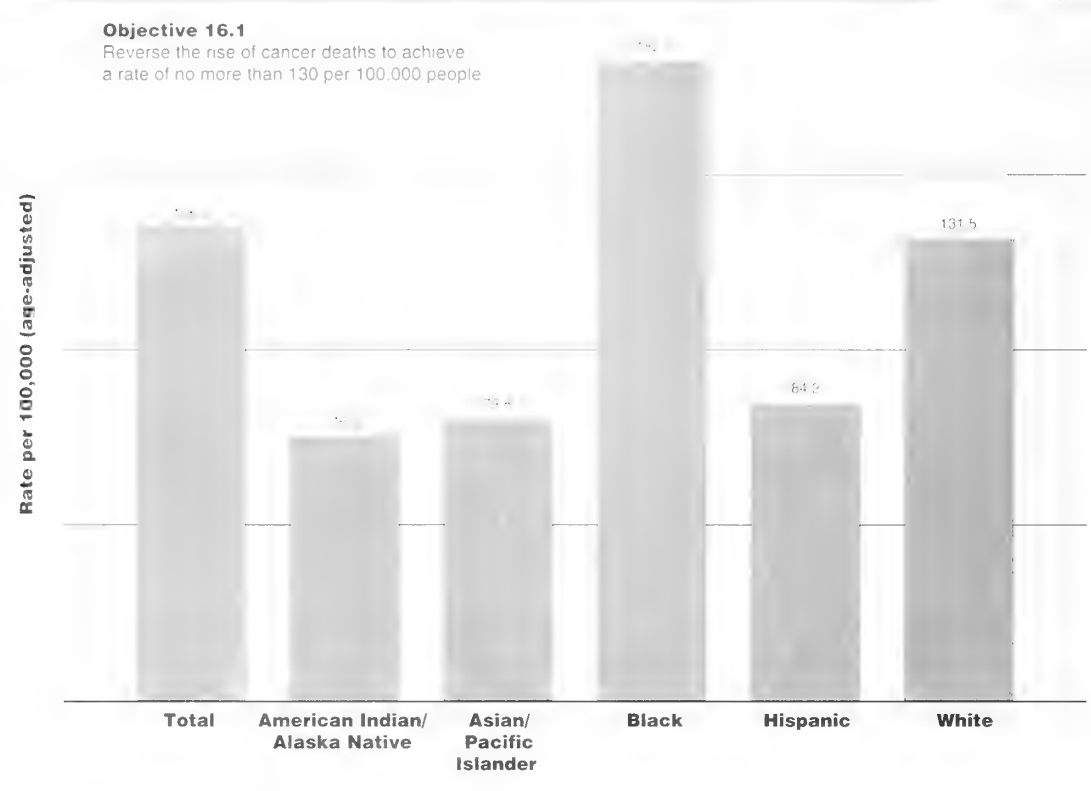


Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

Among blacks, the cancer death rate was 35 percent higher than that for the general population. The overall cancer death rate for Asians and Pacific Islanders was significantly below the rate for the general population, although specific subgroups experienced higher incidence rates than the general population for certain cancers: Hawaiians and breast cancer, Southeast Asian men and lung cancer, and Southeast Asians and liver cancer.

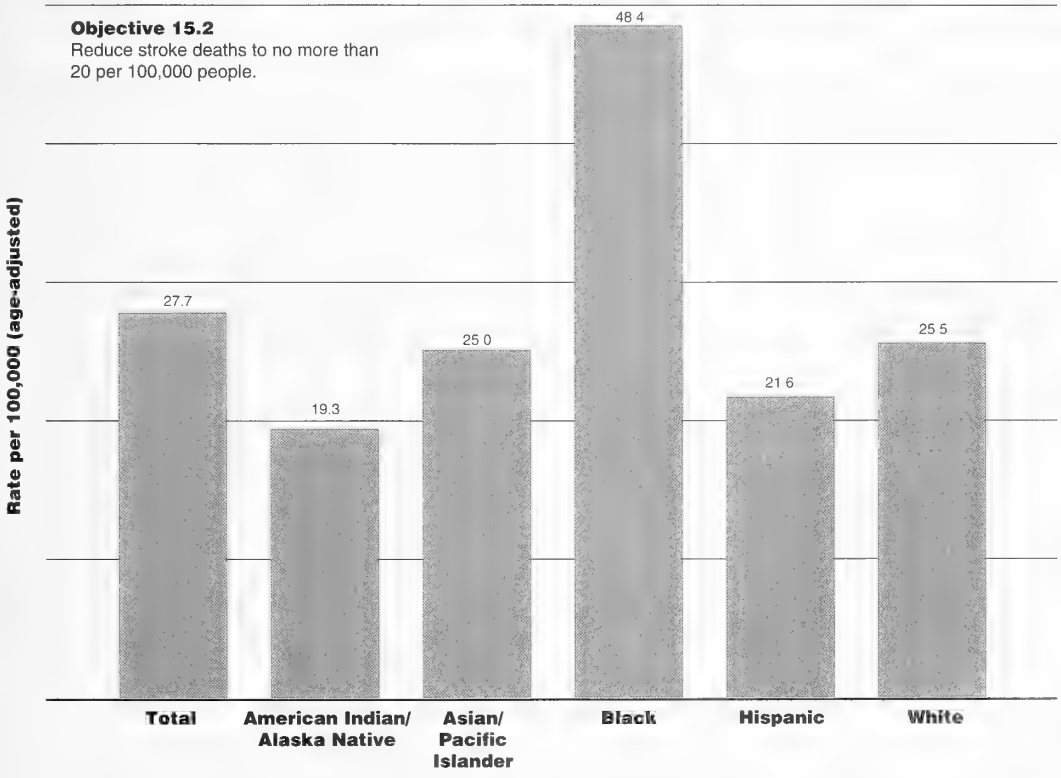
STROKE

Cerebrovascular disease was the third leading cause of death in the United States in 1990, causing 144,088 deaths. Stroke is also a major cause of morbidity, as 400,000 to 500,000 Americans suffer non-fatal strokes each year. Stroke mortality has declined by almost 60 percent since 1970, and this decline is primarily attributed to the improved control of high blood pressure. Evidence also suggests that cigarette smoking is a risk factor for stroke and that smoking cessation reduces stroke risk.

The HEALTHY PEOPLE 2000 objective is to reduce stroke deaths to no more than 20 per 100,000 people. The stroke death rate for the general population was 27.7 per 100,000 people for 1990. Of the three leading causes of death, the stroke death rate showed the greatest disparity between blacks and the rest of the population: the death rate from stroke is 75 percent greater for blacks. To help narrow this gap, a specific population target proposing a greater proportional reduction has been set for blacks at 27 per 100,000.

Rates were lower for whites, Asians and Pacific Islanders, American Indians and Alaska Natives, and Hispanics than they were for blacks. For Hispanics, however, health status for different subgroups varied. While Mexican Americans have low rates of cerebrovascular disease, stroke rates among New York Puerto Ricans are high. Figure 17 shows the death rates for stroke for the general population as well as for specific populations in 1990.

Figure 17. Death Rates for Stroke, by Race and Hispanic Origin, 1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

UNINTENTIONAL INJURIES

Unintentional injuries were the fourth leading cause of death in 1990, killing 91,983 individuals. During the first four decades of life, unintentional injuries claim more lives and more years of potential life than infectious or chronic disease: in 1990, 2.1 million years of potential life were lost to unintentional injuries.

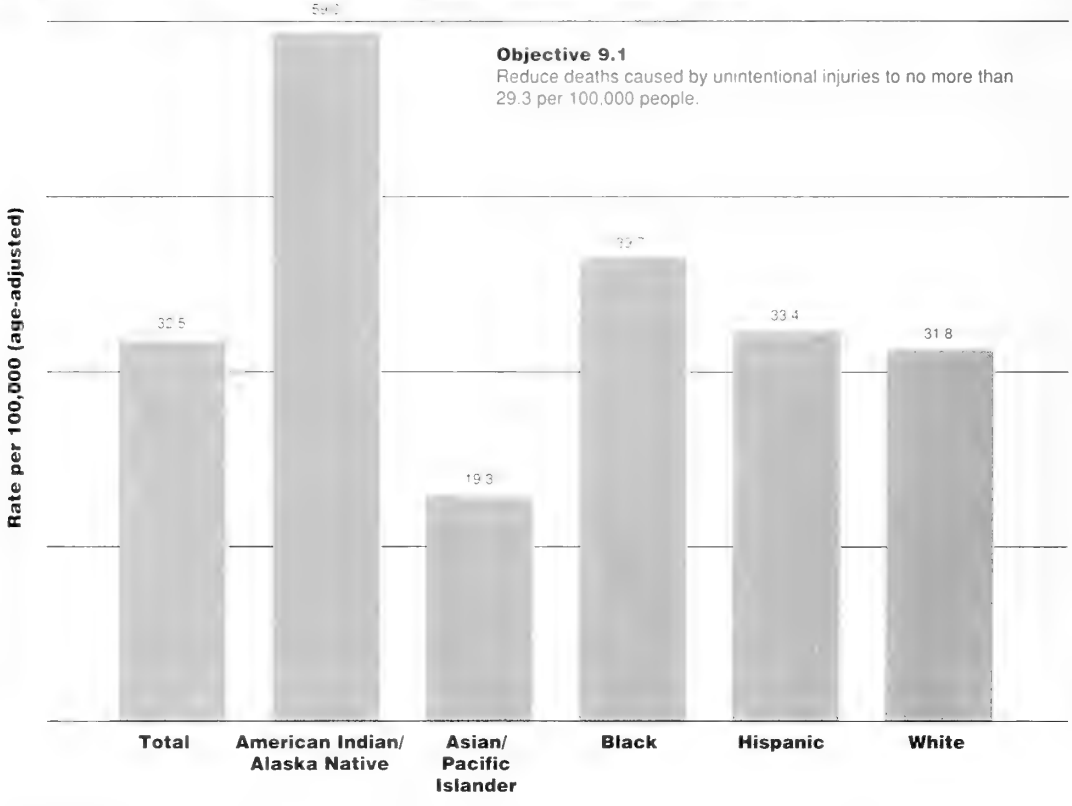
Motor vehicle crashes account for approximately half of the deaths from unintentional injuries; falls rank second, followed by poisoning, drowning, and residential fires. Millions more people are incapacitated by unintentional injuries, with many suffering lifelong disabilities. Direct and indirect costs due to unintentional injuries in the United States are approximately $150 billion each year.

Any significant reduction in the number of injuries will require the combined efforts of many fields, including health, education, transportation, law, engineering, architecture, and safety sciences. Efforts to reduce death and disability from unintentional injuries must also be combined with efforts to reduce alcohol and other drug abuse, a leading factor in motor vehicle crashes.

Although the death rates for unintentional injuries appear uniform in comparison to other health indicators, notable disparities do exist. Unintentional injury death rates among American Indians and Alaska Natives in the 1–14, 15–24, and 25–44 age groups ranged from two to three times higher than those for the general population. An estimated 75 percent of unintentional injury deaths in this population are alcohol-related. The death rate for blacks due to unintentional injury is 22 percent higher than among the general population, while Hispanics are only slightly higher than the overall rate.

The HEALTHY PEOPLE 2000 objective is to reduce deaths caused by unintentional injuries to no more than 29.3 per 100,000 people. There are also three sub-objectives: for American Indians/Alaska Natives, the target is 66.1; for black males, the target is 51.9; and for white males, the target is 42.9. Figures 18 shows the 1990 death rates due to unintentional injuries for the general population as well as for specific population groups.

Figure 18. Death Rates for Unintentional Injuries, by Race and Hispanic Origin, 1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

SUICIDE

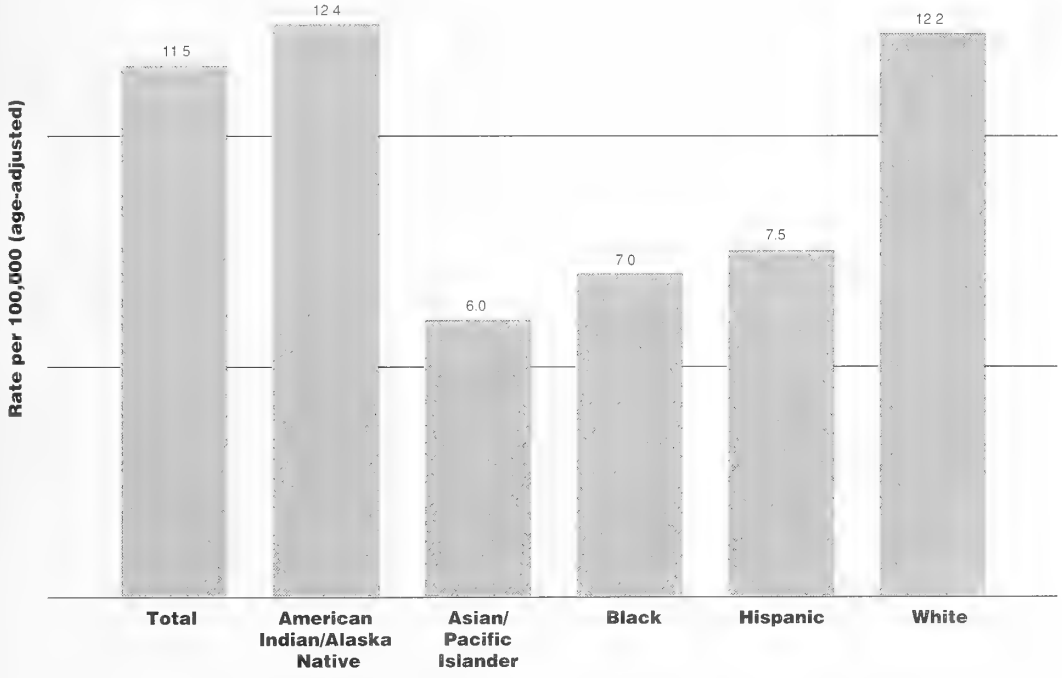
Suicide is the eighth leading cause of death in the United States and a serious potential outcome of mental illness and mental disorders. In 1990, 30,906 people died of suicide. Mental disorders such as schizophrenia, panic disorder, and adjustment and stress reactions, as well as alcohol and other drug abuse, have been implicated in both attempted and completed suicides.

Injuries resulting from gunshots cause a majority of suicide deaths, and much of the increase in the suicide rate since the 1950s can be accounted for by firearm-related deaths. Most attempted suicides, however, are associated with poisoning (by pill ingestion) and laceration. Judging the effectiveness of interventions designed to prevent mental illness and promote mental health in reducing intentional suicide deaths requires consideration of the many confounding effects. These include differential availability, accessibility, and acceptability of lethal weapons, as well as community variations in gun ownership and laws controlling the sale and purchase of handguns.

Suicide rates vary substantially by gender, age, and race/ethnicity. For instance, men are more likely to commit suicide, with rates higher for whites and American Indians and Alaska Natives. Since the 1950s, there has also been a steady increase in suicide among all youth aged 15–19. The 1990 suicide rate for the 15–24 age group is nearly three times the 1950 rate. The HEALTHY PEOPLE 2000 objective is to reduce the overall suicide rate to no more than 10.5 per 100,000 people. The 1990 rate for the overall population was 11.5 per 100,000 people, and this rate has been increasing, not decreasing. Figure 19 shows the 1990 suicide rates by race and Hispanic origin. The white and the American Indian and Alaska Native populations both have rates surpassing that of the general population, due in large part to the high rates for young adult males in both populations.

Figure 19. Death Rates for Suicide, by Race and Hispanic Origin, 1990

Objective 6.2
Reduce suicides to no more than 10.5 per 100,000 people.



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

HOMICIDE

In 1990, homicide and legal intervention was the ninth leading cause of death, claiming 24,932 people. Men, teenagers, and young adults, particularly blacks and Hispanics, are most likely to be murder victims. Most homicides are committed with a firearm, occur during an argument, and occur among people who are acquainted with one another.

Homicide is one of the Nation's most challenging public health problems, and the inequity with which it strikes the Nation's population groups is telling. No cause of death so greatly differentiates Black Americans from other groups as homicide. While blacks constitute only 11.7 percent of the population, they accounted for almost half of the homicide deaths in the United States in 1990.

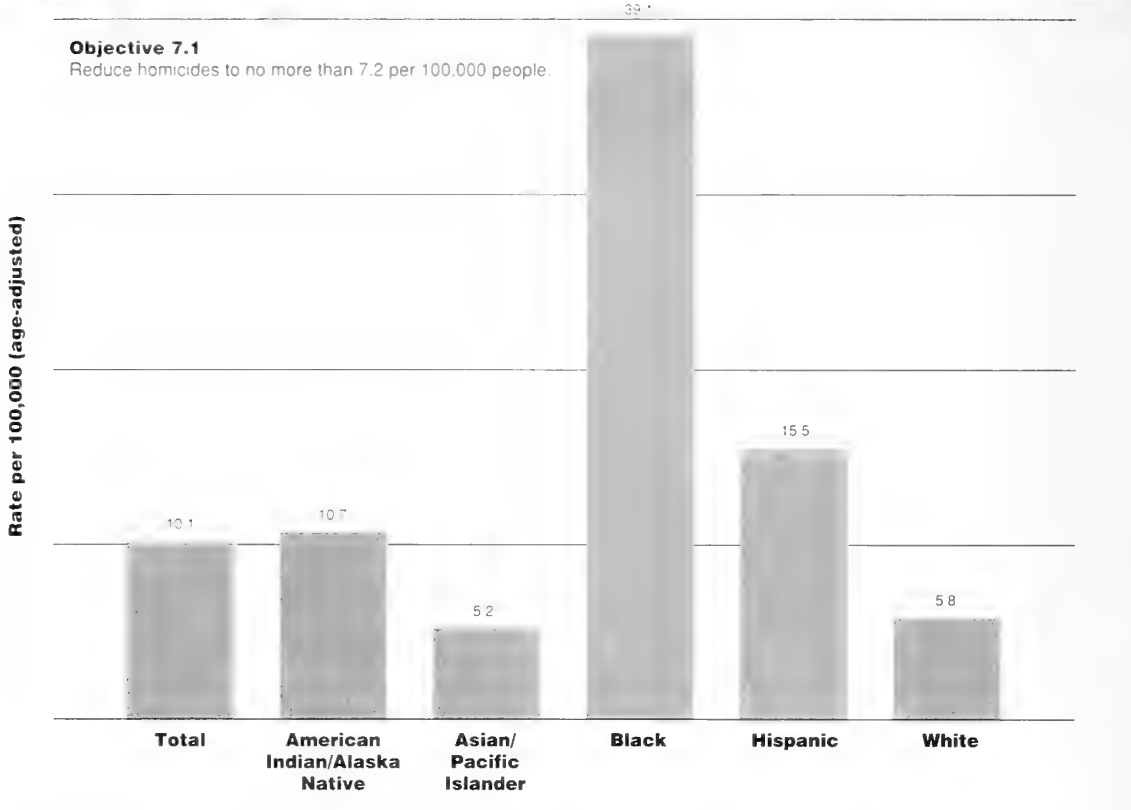
Disparities in homicide rates between blacks and whites were among the greatest. The 1990 rate among black males was 7.7 times that of white males; among black females, it was 4.6 times that of white females. The Hispanic population also experienced a significantly higher death rate from homicide. The overall Hispanic rate for 1990 was over 2.6 times that of the white population. Among Hispanics aged 15 to 44, the disparity was even greater, with over three times as many Hispanics dying as a result of homicide.

Poverty has been identified as an extremely important risk factor in homicide. This is a critical variable to consider, because if the high incidence of homicide among blacks and other minority groups simply reflects greater poverty, then preventive interventions should be targeted toward all persons living in poverty.

Another important factor associated with homicide is the use, manufacture, and distribution of drugs. Violence may occur as a consequence of the pharmacological effects of drugs, economically motivated crimes to support drug use, or interactions related to the manufacture, buying, and selling of drugs. No national data allow for a determination of the proportion of homicides associated with drug use in these three ways; however, studies conducted in Miami and New York City indicate that at least 25 percent of the homicides occurring in these cities may be associated with drug use.

The HEALTHY PEOPLE 2000 objective is to reduce homicides to no more than 7.2 per 100,000 people. The 1990 homicide rates for the general population and by race and Hispanic origin are shown in Figure 20. The distinctive fea-

Figure 20. Death Rates for Homicide, by Race and Hispanic Origin, 1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

tures are the high rates for the black and Hispanic populations, and the comparatively low rates for the white and Asian and Pacific Islander populations. The rate for the overall population is 10.1 homicides per 100,000 people.

Note: The chart and objective for homicide discussed in this section use different *International Classification of Diseases, Ninth Revision* (ICD-9) codes than the mortality rates discussed earlier. See "Cause-of-death Terminology—Codes," *Health, United States, 1992 and Healthy People 2000 Review*, page 241.

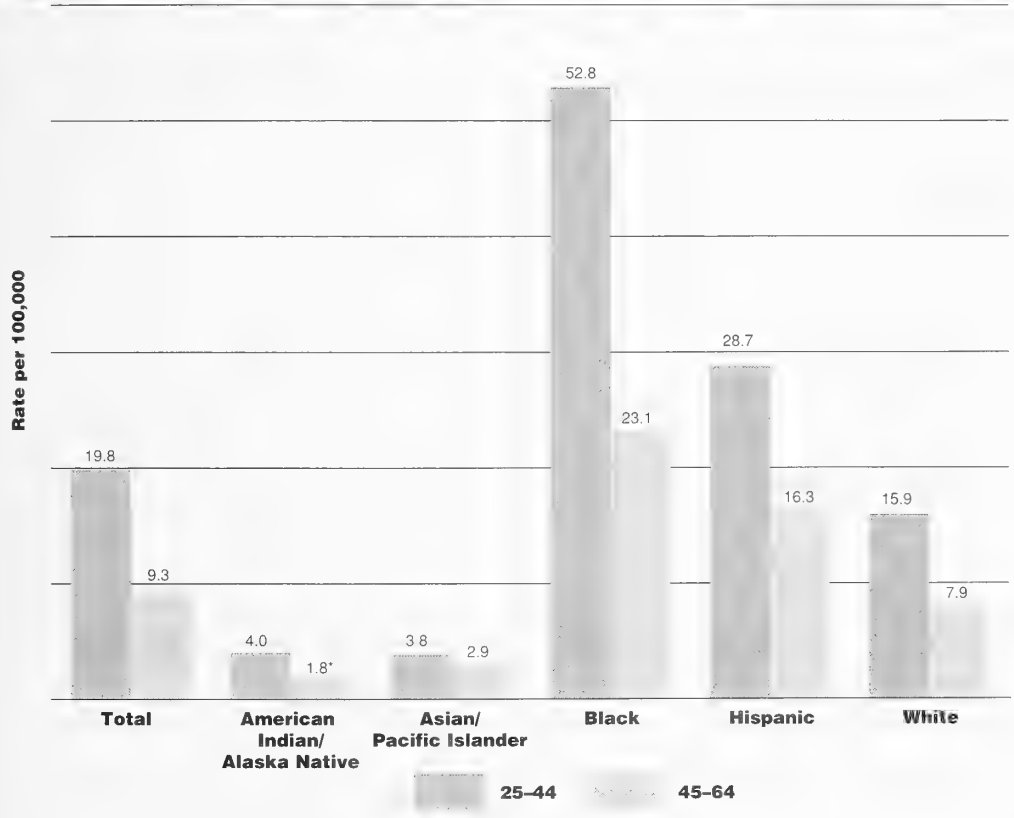
HIV INFECTION

In 1990, 25,188 Americans died as a result of HIV infection, making it the 10th leading cause of death. The cumulative total of deaths due to HIV in the United States through 1990 was approximately 113,000 people, and the total number of AIDS cases through 1990 was over 182,000. By the end of 1993, an estimated total of 390,000 to 480,000 cases of AIDS will have been diagnosed in the United States and 285,000 to 340,000 people will have died from the disease. (These projections were based on the case definition used prior to the latest revision in January 1993; the final totals may be higher.)

HIV and AIDS are a growing threat to the health of the Nation and will continue to make major demands on health and social service systems for many years. The annual cost of AIDS was estimated to be $5 billion to $13 billion in 1992. Because there is no known cure for AIDS, the first priority is to stop the spread of the HIV infection.

New prevention and control strategies must be adopted nationwide. Many of the HIV-infected people in the United States are unaware that they have the virus. Educational efforts and testing are imperative to help infected people adopt behaviors that prevent them from infecting others, to prevent or reduce adverse psychological reactions, to help uninfected individuals maintain behaviors that reduce their risk of infection, to help spouses and sexual partners of infected people adopt infection-preventing behaviors, and to provide HIV-infected people with early medical intervention that can prolong life.

Figure 21. Death Rates for HIV Infection, by Race, Hispanic Origin, and Age, 1988–1990



*Based on fewer than 20 deaths

Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

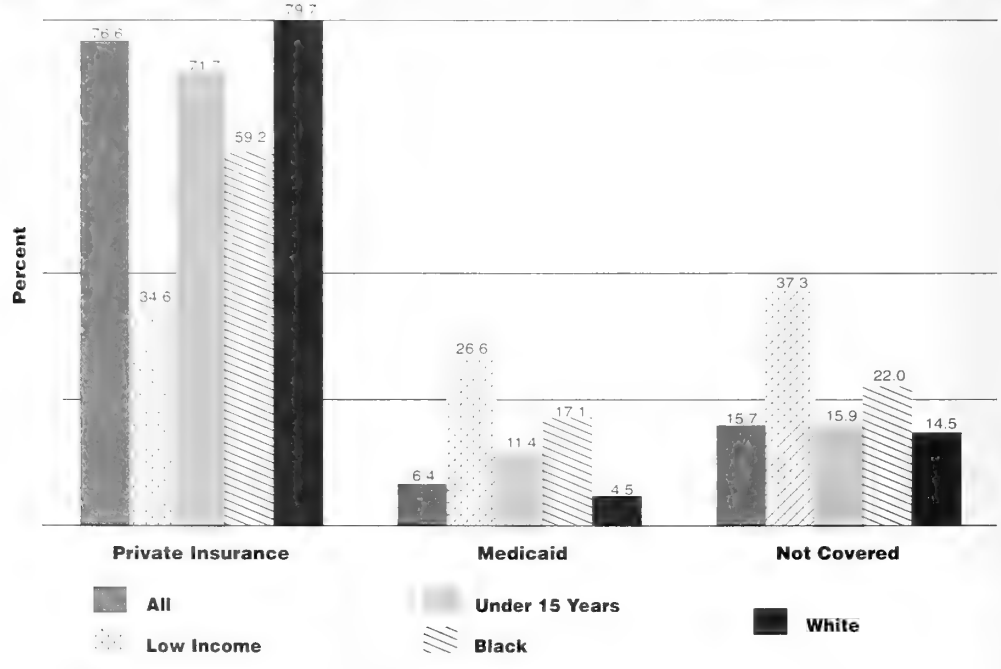
The populations most affected by HIV differ markedly by region, and the resources available to treat and prevent HIV vary according to population. Data from the AIDS Surveillance System show that racial and ethnic populations, especially blacks and Hispanics, have been disproportionately affected by HIV. In 1990, 30 percent of deaths due to the HIV infection occurred among blacks, who made up only 11.7 percent of the population; 17 percent occurred among Hispanics, who made up only 9 percent of the population. Among individuals between the ages of 25 and 44, which was the most vulnerable age group with respect to HIV, the black HIV death rate was over 2.7 times that of the general population, and the Hispanic death rate due to HIV was 1.9 times that of the general population. In 1992, blacks and Hispanics constituted 34 percent and 18 percent of AIDS cases, respectively, and their AIDS case rates were 2.9 and 1.6 times that of the general population. Asians and Pacific Islanders represented fewer than seven-tenths of 1 percent of deaths from HIV infection in 1990, far below their percentage of the population, and the American Indian and Alaska Native population constituted only 0.15 percent of HIV deaths. Figure 21 (p. 33) shows the 1988–1990 rates of death due to HIV infection for the overall population as well as for specific population groups.

GOAL 3. ACHIEVE ACCESS TO CARE

The third HEALTHY PEOPLE 2000 goal is to achieve access to preventive services for all Americans. Access to care can contribute to greater life expectancy and extended years of healthy life. As the data in preceding sections demonstrate, declines in death rates and improvements in other important measures of the Nation's health have been widespread; however, the relative gap between the health status of most Americans and certain minority and low-income groups has actually widened in the past decade. Access to preventive services is dependent upon adequate insurance coverage and availability of a source of primary care that is geographically accessible and offers culturally appropriate services, including counseling on healthy lifestyle.

Data on the disparity in health insurance coverage confirm the significance of socioeconomic factors in determining access to primary care. In 1989, 15.7 percent of all people under age 65 had no health insurance by private or public forms of coverage (Fig. 22), up from 12.5 percent in 1980. Income level was a significant factor in lack of coverage: among those living in families with incomes below $14,000 per year, 37.3 percent—nearly 2½ times the overall rate—lacked coverage in 1989. Almost 34 million Americans live in families with an in-

Figure 22. Health Insurance Coverage for People Aged 64 and Younger, by Type of Coverage, 1989



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey
Note: Percentages do not add to 100 because the percentage with other types of health insurance (e.g., military, Medicare) is not shown

come below the Federal poverty level, including nearly 13 million children.

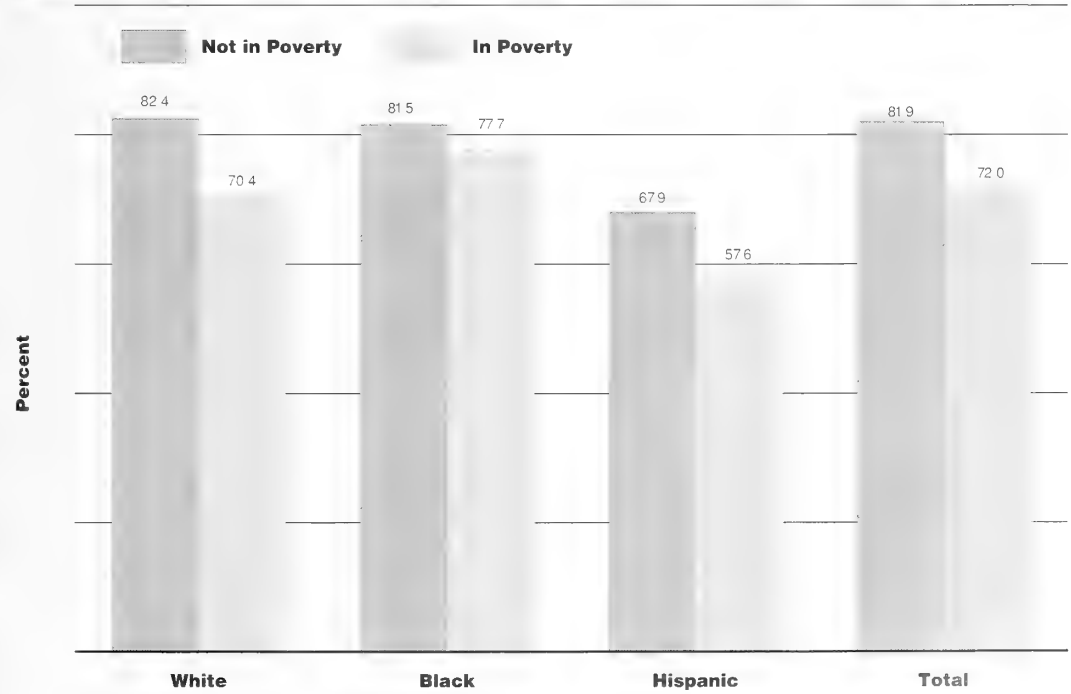
As income level increased, so did health insurance coverage; among those with family incomes from $14,000–$24,999 per year, 21.4 percent lacked coverage in 1989. Only 9.3 percent of those in the $25,000-$34,999 income range lacked coverage. Among those whose income level was above $50,000, just 3.2 percent had no coverage. Education level and employment status were also important factors in health insurance coverage. Among those aged 18–64, 30.1 percent of people with less than a high school education lacked coverage, as did 39.2 percent of people who were unemployed. The relative gap between the health status of whites and that of blacks and other minorities was reflected in insurance coverage: only 14.5 percent of whites lacked coverage, versus 22 percent of blacks and up to 20 percent of other minorities.

Children generally had higher coverage rates than adults in all income and racial groups, although disparities were still evident. In 1989, 14.9 percent of those aged 17 and under lacked coverage, versus 27.4 percent of those aged 18 to 24 and 15.5 percent of those aged 25 to 44. Among those aged 17 and under, 14 percent of whites lacked coverage, compared to 18.9 percent of blacks. Among those 17 and under living in families with incomes below the poverty level, the percentage was 32.5 without coverage versus 9.6 percent for those above the poverty level. Data from a 1988 survey show that 30 percent of Hispanics aged 17 and under lacked coverage, more than either whites or blacks.

Other data linking socioeconomic status with reduced access to care include the percentage of Americans with a regular source of primary care. A regular source of care is defined as a particular clinic, health center, doctor's office, or other place to which a person goes to obtain health care or health advice (other than an emergency room). In 1991, 81.9 percent of Americans not in poverty and 72 percent of those in poverty had a regular source of care (Fig. 23). Among minorities, 67.9 percent of Hispanics not in poverty had a regular source of care, compared to 57.6 percent of Hispanics in poverty. For blacks not in poverty, 81.5 percent had a regular source of care, compared to 77.7 percent of blacks in poverty. Among whites, 82.4 percent not in poverty and 70.4 percent of those in poverty had a regular source of care.

The gap in access to a regular source of care was 9.9 percent between those in poverty and those not in poverty in 1991.

Figure 23. Percentage of People With a Regular Source of Care, 1991



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey

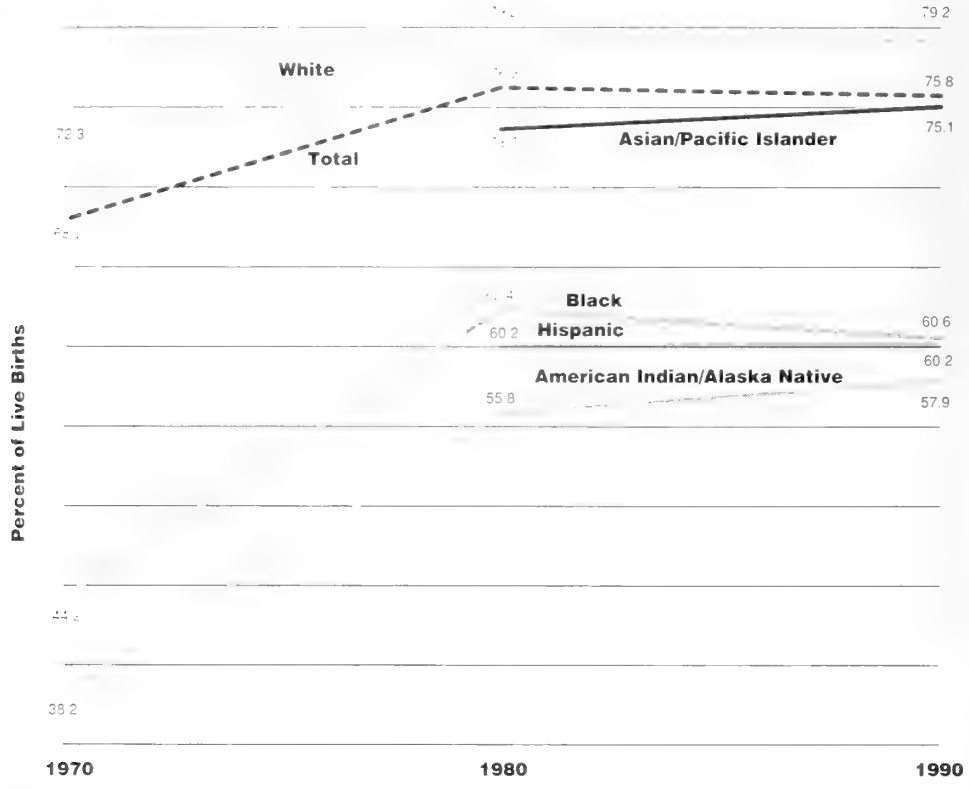
[illegible] among the population not in poverty, 18.1 percent (over 45 million people) did not have a regular source of care. At the other end of the spectrum, 32.1 percent of Hispanics in poverty did not have a regular source of care.

One proxy measure of access to care and the potential benefit of preventive services is prenatal health care. Early and regular prenatal care, including education and counseling, can reduce the likelihood of low birth weight and other perinatal complications—key factors in infant mortality. An expectant mother with no prenatal care is 3 times as likely to have a low-birth-weight baby, yet women in high-risk groups, such as adolescents and low income women, are among the least likely to receive early prenatal care.

From 1970 to 1990, the proportion of all mothers who began prenatal care during the first trimester of pregnancy increased from 68 to 75.8 percent. Among whites, the increase was from 72.3 to 79.2 percent; among blacks, from 44.2 to 60.6 percent; and among American Indians and Alaska Natives, from 38.2 percent in to 57.9 percent. Almost all of this improvement in access to prenatal care was achieved during the 1970s; data for the 1980s present stagnation and even decline in this important health status indicator. The overall population rate dropped slightly from 1980 to 1990; the white and Hispanic rates were unchanged; the black rate decreased; and the American Indians and Alaska Natives rate improved slightly.

The gap in both early and late prenatal care between whites and other racial and ethnic groups remained significant in 1990. In 1990, 6.1 percent of all mothers began prenatal care only in the third trimester or received no care prior to delivery. Among whites, this percentage was 4.9, versus 11.3 among blacks, 12.9 among American Indians and Alaska Natives, 12 among Hispanics, and 5.8 among Asians and Pacific Islanders. These percentages represent increases since 1980 of 20 percent for the general population, 14 percent for whites, and 27 percent for blacks; the Hispanic rate remained unchanged.

Figure 24. Percentage of Pregnant Women Receiving First Trimester Prenatal Care, by Race and Hispanic Origin, Selected Years, 1970–1990



Source: Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System

IMMUNIZATION

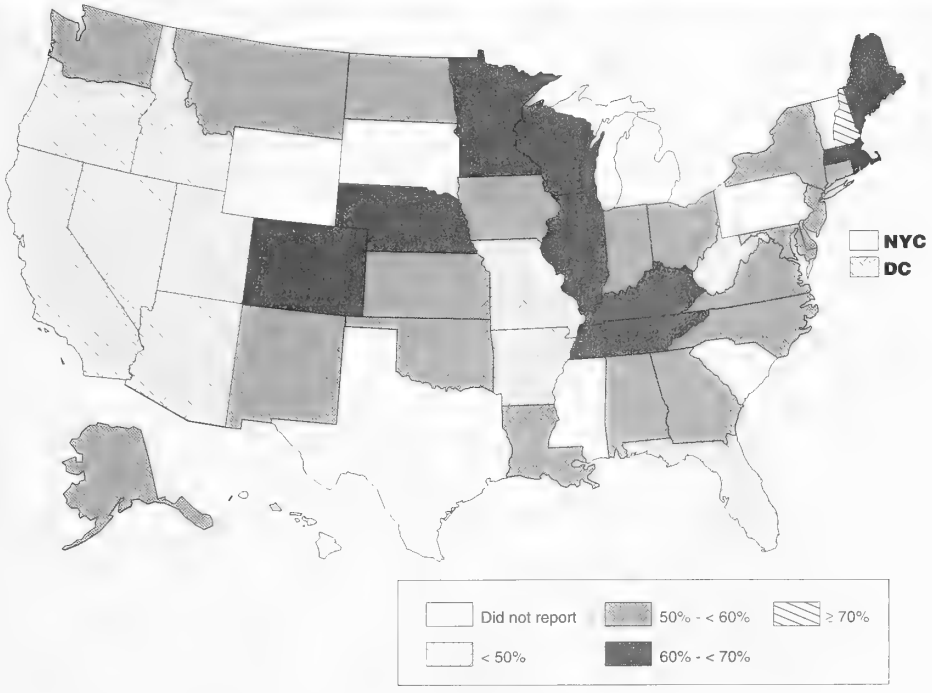
The reduction in incidence of infectious disease is the most significant public health achievement of the past 100 years. Most of the gains in control of infectious diseases, including the virtual elimination of diphtheria and poliomyelitis in the United States, have resulted from improvements in basic hygiene, food production and handling, and water treatment, but another major factor has been the development and widespread use of vaccines, which are among the safest and most effective preventive measures.

Notwithstanding the progress that has been made, infectious diseases remain important causes of illness and death in the United States. Even though the Nation's leading causes of death among the general population are now chronic diseases, the top 10 killers among children aged 1 to 4 include pneumonia and influenza, HIV infection, septicemia, and meningitis.

In addition, racial and socioeconomic disparities persist in child immunization status. According to the National Health Interview Survey (NHIS), the ranges of immunization status in 1991 showed that black immunization rates were as much as 27 percent lower than those for whites. Data showed that immunization rates for those below the poverty level were as much as 23 percent lower than those at or above the poverty level. Finally, data showed that immunization rates for urban populations were as much as 18 percent lower than those for suburban and rural populations.

The HEALTHY PEOPLE 2000 objective for children under the age of 2 is for 90 percent to be up-to-date on the basic series of immunizations. Figure 25 gives a state-by-state analysis based on the State Immunization Survey by CDC. NHIS data for 1991 for the basic immunization series among children showed that only 37 percent of children aged 24 to 35 months were fully immunized. Clearly, childhood immunization is an area where substantial and organized effort needs to be focused.

Figure 25. Up-to-Date Immunization Status* of School Enterers at the Second Birthday, United States, 1991–1992**



* 4 DTP, 3 Polio, 1 MMR; data obtained retrospectively from records at time of school entry
** North Dakota and Tennessee results from children 2 years of age, 1991
Source: Center for Disease Control and Prevention, National Center for Preventive Services, State Immunization Survey

CHAPTER 3

AGENCY INNOVATIONS

Described in this chapter are a variety of health promotion and disease prevention programs sponsored by the Department of Health and Human Services and other Federal agencies. Prevention initiatives range from basic and applied research to direct delivery of services; from sponsorship of health information and education to data collection, analysis, and dissemination; and from enhancement of the capacity of private sector organizations to conduct prevention activities to establishment and enforcement of safety standards.

As highlighted in this chapter, the Federal Government—often with interagency collaboration and often in collaboration with State and local governments and national and community organizations—is an important contributor to the national commitment to a healthier America. The progress and achievements depicted in the following program summaries are characterized by a determined and collective effort of individuals, organizations, and governments on behalf of health promotion and disease prevention.

DEPARTMENT OF HEALTH AND HUMAN SERVICES (DHHS)

Public Health Service (PHS)

Office of the Assistant Secretary for Health (OASH)

The Assistant Secretary for Health is responsible for overseeing the work of the Public Health Service. Described in this chapter are the health promotion and disease prevention policies and programs of the eight offices in the Office of the Assistant Secretary for Health and the eight agencies of the Public Health Service.

NATIONAL VACCINE PROGRAM OFFICE (NVPO)

The National Vaccine Program was established in 1987, under Title XXI of the Public Health Service Act, to assume leadership responsibility for the Nation's vaccine and immunization programs. Specifically, it was established to coordinate and provide direction for each element of the immunization process: vaccine development, testing for safety and efficacy prior to licensure, licensing, production, procurement, distribution, delivery, and continued evaluation of vaccines in use after licensure. Through collaborative efforts with the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), the National Institutes of Health (NIH), the Health Resources and Services Administration (HRSA), the U.S. Agency for International Development (USAID), and the Department of Defense (DOD), the program seeks to assure vaccine availability and use, and to identify and resolve vaccine supply and delivery system problems. The law also requires that the program ensure governmental and nongovernmental production and procurement of safe and effective vaccines. In addition, NVPO provides technical and scientific advice to the Vaccine Injury Compensation Program under which the Federal Government will pay compensation on a no-fault basis to persons injured by vaccines or who die as a result of vaccines.

NVPO Prevention Highlights

NVPO coordinates key Federal strategies in disease prevention and health promotion to meet DHHS and PHS goals. HEALTHY PEOPLE 2000 established health objectives for the Nation for the year 2000. Major immunization goals in this report are to increase childhood immunization levels to at least 90 percent for 2-year-old children; to eliminate measles, diphtheria, poliomyelitis, rubella, and tetanus; and to substantially reduce the cases of pertussis and mumps.

The National Vaccine Plan. NVPO, with the PHS, has developed a comprehensive National Vaccine Plan to provide direction and coordination to public agencies, the private sector, voluntary organizations, and industry. Legislation requires that the plan seek to assure that everyone who should be protected by vaccination receives all recommended vaccines, that needed research expertise is directed toward improving existing vaccines, that development of new vaccines is encouraged to extend preventive health services even further, that safety and effectiveness of vaccines and immunization is ensured, and that support is provided for global immunization efforts. The plan is the basis for the President's Childhood Immunization Initiative.

Plan To Improve Access to Immunization Services. An Interagency Committee on Immunization convened by NVPO is implementing a plan to improve the Nation's access to immunization services. This plan consists of the implementation steps developed in the National Vaccine Plan (above). It is designed to improve the Nation's access to immunization services through improved coordination of established Federal health, income, housing, educational, and nutritional programs. The plan is focused on improving immunization services for preschool-age children and targeting resources to high-risk and hard-to-reach populations.

The Children's Vaccine Initiative (CVI). The goal of this initiative is to improve preventive health care for children through improved vaccines and enhanced immunization practices. Research is being conducted to achieve this through fewer doses of vaccines, alternative means of administration, and combined vaccines. Immunization coverage should improve while requiring fewer visits to health care providers. Experience suggests that the greater the number of contacts required to fully immunize a child, the less likely it is that the child will be fully immunized. This is particularly important among children in the inner city and the rural poor.

The National Vaccine Advisory Committee (NVAC). NVAC is comprised of national, State, and local health officers, health practitioners, university physicians, and consumers who advise PHS on vaccine issues. In 1991 NVAC released a report entitled *"The Measles Epidemic: The Problems, Barriers and Recommendations"* and followed it with a report entitled *"Access to Childhood Immunizations: Recommendations and Strategies for Action."* These reports describe what the Nation as a whole must do to achieve its immunization goals. Identified are areas for additional action by all levels of the public sector, including Federal, State, and local governments, and the private sector, including physicians, health insurance companies, and parents.

The *PHS Action Plan for Women's Health*. This plan addresses preventive health care concerns of women. Immunization goals included in this initiative are intended to (1) increase the proportion of primary care providers who give appropriate information and counseling about immunization to women of reproductive age and the elderly, (2) increase the availability of vaccines for women, (3) incorporate immunization for disease prevention into substance abuse treatment and prevention programs, and (4) stimulate the recruitment of women to participate in the development of vaccines for women's diseases.

OFFICE OF DISEASE PREVENTION AND HEALTH PROMOTION (ODPHP)

The Office of Disease Prevention and Health Promotion (ODPHP) was established in 1976 to provide leadership for disease prevention and health promotion among Americans by stimulating and coordinating Federal activities. ODPHP advances this mission by working to strengthen the disease prevention and health promotion priorities of the U.S. Department of Health and Human Services (DHHS) within the collaborative framework of the Public Health Service (PHS) and DHHS agencies. Through effective communication, coordination and coalition-building, ODPHP also provides a framework for collaboration among Federal, State, and local government agencies, professional and voluntary organizations, health care providers, employers, insurers, and academia. This report details ODPHP's major accomplishments and activities during 1992 and presents key initiatives for 1993.

ODPHP Prevention Highlights

Implementation of HEALTHY PEOPLE 2000 has begun nationwide. Three overarching goals and 300 specific objectives are to be achieved by the year 2000. ODPHP is responsible for coordinating the development progress and outcome of these objectives. The first round of PHS-wide Progress Reviews covering all 22 priority areas was completed. Progress reviews have begun that cut across these priority areas to focus on the health disparities of special population groups.

The HEALTHY PEOPLE 2000 Consortium, comprised of national organizations and State and territorial health departments, now has over 330 members. A database of members' activities was developed to identify groups working on particular issues, as well as potential channels for reaching the diverse constituencies represented by the Consortium. At the 1993 national meeting, members learned about opportunities for action in the health care reform era. An activities sampler, *Turning Commitment into Action*, was distributed.

More than 7,500 copies of the *Healthy People 2000 Action Series* (including *Public Health Service Action*, *State Action*, and *Consortium Action*), which describes efforts underway to achieve the objectives by government and private organizations, have been distributed. The *Healthy People 2000 Fact Sheet* and *Resource Lists*—one for each priority area—were revised. *UPDATE*, a supplement to the bimonthly *Prevention Report*, was developed to report on programs and activities directly related to achieving the goals of HEALTHY PEOPLE 2000. To support implementation of HEALTHY PEOPLE 2000 across the country, an electronic network is being established. Among other elements, the network will include the consortium database, a directory of information resources related to the national objectives (including data sources), full texts of all key HEALTHY PEOPLE 2000 documents, and a bulletin board permitting communication among users. In the pilot stage, the network will be available to HEALTHY PEOPLE 2000 Consortium members and health officials at the Federal and State levels.

Put Prevention Into Practice, a national preventive services education campaign, is entering its implementation phase. *Put Prevention Into Practice: Education and Action Kits*, as well as individual kit components, will soon be available through the Government Printing Office and major national primary care provider groups. The patient component of the campaign, the passport-sized *Personal Health Guide*, was introduced in June 1992 in New York City. This 32-page booklet allows patients and providers to assess risk factors and plan an individualized schedule of preventive services. Other elements of the initiative, the *Child Health Guide*, and the *Clinician's Handbook* for providers, and materials for use in the office or clinic setting, have now been developed. Implementation through national primary care provider groups, private sector partners, and health professional educational settings, is underway.

The *Dietary Guidelines for Americans* provide recommendations based on current scientific knowledge about how dietary intake can reduce risk for major chronic diseases. During 1992, DHHS and the U.S. Department of Agriculture (USDA) issued the "Food Guide Pyramid" graphic, a pictorial representation of the concepts presented in the *Guidelines*, and developed *Building the Future: Nutrition Guidance for Child Nutrition Programs*, which provided dietary guidance for child nutrition programs. Work began on the fourth edition of the *Dietary Guidelines*, which will be issued jointly by DHHS and USDA in 1995.

The 1993 ODPHP nutrition activities include preparation of a follow-up report to the *Surgeon General's Report on Nutrition and Health* focusing on dietary fat and health. Two publi-

cations on worksite health promotion were issued. *Worksite Nutrition: A Guide to Planning, Implementation, and Evaluation* was a joint effort with the American Dietetic Association. The second is a companion document and a "how-to" manual of the DHHS Healthy Menu Program. The annual DHHS nutrition symposium, held in recognition of National Nutrition Month in March, had as its theme "Nutrition and Multimedia: Exploring New Options." In addition, ODPHP helped coordinate DHHS participation in the International Conference on Nutrition in December 1992.

Actuarial projections of the costs of clinical preventive services were developed in age- and gender-specific packages. Using these cost estimates, a monograph titled *The Comparative Benefits Modeling Project: A Framework for Cost-Utility Analysis of Government Health Care Programs* was published. ODPHP provides support for an Intradepartmental Group on the Cost-Effectiveness of Clinical Preventive Services and a non-Federal expert panel to review methodologic issues in cost-effectiveness analysis of clinical preventive services.

The U.S. Preventive Services Task Force is continuing its work, updating and expanding its 1989 report, the *Guide to Clinical Preventive Services*. Background papers for the second edition of the report appeared in the *Journal of the American Medical Association*, and the second edition of the *Guide to Clinical Preventive Services* will be published in 1994.

The *1992 National Survey of Worksite Health Promotion Activities* was released at the April 1993 meeting of the National Coordinating Committee on Worksite Health Promotion. Among the 1,507 private worksites surveyed, significant increases were reported in worksite activities such as nutrition, weight control, physical fitness, high blood pressure, and stress management compared to a 1985 ODPHP worksite survey. In 1992, 81 percent of the worksites offered at least one health promotion activity (other than a formal smoking policy).

ODPHP strengthened its national health promotion and disease prevention activities through the work of three National Coordinating Committees that address clinical preventive services, worksite health promotion, and health promotion through the schools. Committee members include representatives from private organizations and Federal agencies. The Secretary's Council on Health Promotion and Disease Prevention held three meetings during 1992 on HEALTHY PEOPLE 2000 implementation activities, clinical preventive services, and school health.

The ODPHP National Health Information Center (NHIC), congressionally mandated to provide leadership regarding health information issues, is being expanded to address the implications of technological developments on the information infrastructure and interactive media on health information. NHIC, which responded to over 32,000 information requests in 1993, will focus increasingly on promoting decentralized and coordinated health information dissemination through both electronic channels and community-based channels such as libraries. A New Media Projects group will seek to promote effective applications of the new media for public health information and education.

ODPHP also began the development of a national Conference on Networked Health Information. The conference, preceded by a series of workgroup meetings, will prepare action recommendations for the Federal Government and key private sector institutions regarding health information and the emerging communications infrastructure.

PHS continued to support the Community Services Workstation Network, a research project aimed at learning how modern computer and communication technologies can support and enhance the coordination of health and human services at the community level. The network, which will combine electronic communication capabilities with information retrieval and analysis tools, was designed to aid a coalition of health and human services providers in the District of Columbia in their efforts to work collaboratively to serve at-risk individuals and families. A pilot network, linking 15-20 agencies, is scheduled for implementation in early 1994.

Publications completed by ODPHP, or through cooperation with other organizations, in 1992 include:

- *Promoting Healthy Diets and Active Lifestyles to Lower-SES Adults*
- *Healthy Schools: A Directory of Federal Programs and Activities Related to Health Promotion Through the Schools*
- *Healthy Worksites Directory of Federal Initiatives in Worksite Health Promotion*
- *Measurement of Physical Fitness: A Historical Perspective*

ODPHP collaborated with the following organizations: **Washington Business Group on Health** to continue managing the National Resource Center on Worksite Health Promotion; the **National Civic League's** Healthy Communities Action Project, which seeks to improve the quality of life and the general health of individuals through the development of innovative approaches to health promotion and disease prevention; and the **Voluntary Hospitals of America, Inc.** to help with the design and implementation of the Put Prevention Into Practice national preventive services education campaign.

ODPHP participated in cooperative agreements with the following organizations: **American College of Preventive Medicine, Association of Teachers of Preventive Medicine, National Medical Association,** and **American Institute of Nutrition.**

OFFICE OF INTERNATIONAL HEALTH (OIH)

The Office of International Health (OIH) provides leadership, formulates overall policy, and assures coordination of DHHS's international health activities. These include cooperative relationships with multilateral health organizations, numerous bilateral programs with other countries, and cooperative activities with other Federal agencies, primarily the U.S. Agency for International Development (USAID). Operationally, international programs are carried out as extensions of PHS agencies' domestic efforts.

OIH Prevention Highlights

Bilateral Relationships. Prevention-related research activities are conducted under a number of bilateral health agreements, including those with China, India, Poland, Russia, and Egypt among others. For example, nine prevention-oriented projects with Egypt include genetic counseling, monitoring of rural populations for hypertensive diseases, identifying individuals at risk for developing heart disease, counteracting the growing threat of filariasis, and development of diagnostics and improved vaccines for prevention and control of acute respiratory infections in children.

The Indo-U.S. Vaccine Action Program (VAP) has been an important mechanism for promoting research to develop new or improved vaccines and immuno-diagnostics. AIDS and tuberculosis are also included under the VAP. An NIH contract was awarded to a U.S. university for cooperation with the Indian Council for Medical Research to establish a study site for evaluation of AIDS vaccines when they become available. Cooperative efforts with selected African countries are being strengthened to include malaria control, STD-HIV linkages, and prevention of AIDS.

Multilateral Relationships. DHHS plays a key role in U.S. relations with multilateral health organizations, including the World Health Organization, the Pan American Health Organization, the International Agency for Research on Cancer, the United Nations Children's Fund, and others. Many of the program efforts of these organizations are focused on prevention. These include immunization, oral health, safe motherhood, cancer reduction, cardiovascular disease, and promotion of healthy lifestyles among youth and children.

In 1992, the World Health Organization (WHO) established as a goal the eradication of polio by the year 2000. The PHS, notably, the Centers for Disease Control and Prevention (CDC), is providing technical, laboratory, and programmatic assistance to WHO in support of this initiative. CDC epidemiologists were detailed to WHO offices in China and the Philippines to provide technical assistance. A polio outbreak was investigated in Jordan, an automated surveillance system was developed in China, and CDC assisted with analysis of data from research projects in Cote d'Ivoire, Morocco, Oman, the Gambia, Brazil, and Thailand. These research projects are part of efforts to improve the effectiveness of oral polio vaccine. Polio eradication will lead to permanent improvements in overall immunization delivery, disease control, and primary health care.

In 1993, PHS international program efforts provided assistance to HIV/AIDS/STD research and interventions in developing countries of Africa, Asia, and Latin America. The overall goals of various activities were to advance global understanding of the epidemiologic characteristics relevant to HIV/AIDS/STD prevention and to develop and test different prevention technologies in developing country settings. Various types of HIV/AIDS-related training for health professionals was provided. PHS played an important supportive role in 1992, through WHO, for an Organization on African Unity Summit on AIDS.

Assistance to the Newly Independent States (NIS)/Russia. FDA and OIH, in cooperation with the U.S. Agency for International Development (USAID) and the Department of State, are providing technical assistance to NIS/Russia in improving their capacity for quality control of locally produced vaccines.

A workshop on the principles of regulatory control public health agencies was held in Russia in 1993 to demonstrate how such agencies can ensure that only safe and effective vaccines, drugs, and medical devices enter the health care system.

OFFICE OF MINORITY HEALTH (OMH)

The Office of Minority Health (OMH) is the focal point within DHHS for developing policy on issues related to improving the health status of the American Indian/Alaska Native, Asian American, Black, Hispanic, and Pacific Islander populations. OMH was established administratively in 1985 and was subsequently provided with a formal legislative mandate by the Disadvantaged Minority Health Improvement Act of 1990, Public Law 101-527.

OMH Prevention Highlights

Office of Minority Health Resource Center (OMHRC). The OMH Resource Center was established in 1987 to facilitate exchange of information on minority health topics, help identify information gaps, and provide technical assistance in information dissemination. OMHRC maintains a computerized data base of minority health-related materials, organizations, programs, and funding sources. The data base also incorporates a Resource Person Network, which is used to link professionals who are knowledgeable about minority health with community-based organizations, voluntary groups, and individuals needing technical assistance in health areas.

Minority Community Coalitions Health Demonstration Grants. The Minority Community Health Coalitions Demonstration Grant Program provides opportunities for community capacity building through the development of minority health coalitions which conduct prevention interventions. Emphasis has been placed on HIV/AIDS and the six priority areas identified by the 1985 Secretary's Task Force report. In 1991, the program was expanded to allow coalitions to develop programs about other health problems critical to their communities.

Minority Male Grants. In 1990, DHHS created the Minority Male Initiative to focus on ways to improve services to minority males at high-risk of multiple health and social problems. A Minority Male Grant Program, jointly funded by other DHHS agencies, is administered by the Office of Minority Health. The Minority Male Grant Program addresses (1) health problems such as alcohol, tobacco, and other chemical dependency; homicide, suicide, and unintentional injuries; HIV infection and sexually transmitted diseases; and mental health problems; and (2) social problems such as unemployment, under-education, poor social development, homelessness, family dysfunction, child abuse and neglect, delinquency, criminal backgrounds, or teenage pregnancy and fatherhood. The grant program consists of three components: conference grants, coalition development grants, and coalition intervention grants. In FY 1992, 21 conferences, 12 coalition developments, and 4 coalition intervention demonstration grants were awarded.

HIV/AIDS Education/Prevention Grants. The Minority HIV/AIDS Education/Prevention Grant Demonstration Grant Program supports projects that demonstrate health education and prevention strategies that help to eliminate or reduce the risk of acquiring or transmitting HIV virus, and other HIV-related health problems such as sexually transmitted diseases, tuberculosis, and substance abuse. A Los Angeles

Minority AIDS Project was awarded in FY 1992 and continued to receive funds in FY 1993.

Effective FY 1993, the OMH Minority HIV/AIDS Education Prevention Grant Program was transferred to the Centers for Disease Control and Prevention's Cooperative Agreement Program for Minority Community-Based Organizations (CBOs). CDC expanded the scope of its minority CBO announcement to include low-, intermediate-, and high-prevalence HIV areas to allow CBOs throughout the country to compete for program resources.

A Critical Review of the Status and Trends in the Health and Quality of Life of Minority Populations. OMH is updating and expanding the information included in the 1985 *Report of the Secretary's Task Force on Black and Minority Health*. There are three components of the "Critical Review": (1) a quantitative assessment of excess deaths and mortality rates for each racial and ethnic minority population since the 1985 Task Force Report; (2) establishment of baseline data on morbidity, disability, and quality of life issues for each racial and ethnic minority population, with establishment of baseline data; and 3) enhance the PHS's ability to track trends and health indices related to racial/ethnic populations. This report will provide more comprehensive analyses for all racial/ethnic minority populations due to improvements in data collection made since 1985. In addition to a discussion of mortality in minority populations, other measures of health status will be examined.

PHS Task Force on Minority Health Data. The PHS Task Force on Minority Health Data was established in January 1991 to conduct a short-term, forward-looking, policy-oriented review of minority health data plans and activities. This task force was co-chaired by representatives from OMH, NCHS, and the PHS Office of Data Policy. Following review of data issues related to minority health, a directory of minority health data resources within the PHS was prepared, as well as recommendations for addressing high priority data needs. Both of these reports were published by OMH during FY 1993. PHS agencies are currently developing plans to implement the recommendations, and are collaborating to improve the collection and analysis of minority health data.

Minority Health Tracking System (MHTS). OMH is designing a Minority Health Tracking System that will contain information on grants and contracts related to minority health that are supported by PHS. The first product of the MHTS Programmatic Database is a "Catalog of Selected U.S. Public Health Service Projects Targeting Racial and Ethnic Minority Populations: FY 1989/1990," which includes project summaries of PHS projects targeted at minority populations in 10 priority health issue areas identified by OMH: cancer, cardiovascular disease and stroke; diabetes; HIV/AIDS; infant mortality and low birth weight; substance abuse and chemical dependency; homicide; suicide and unintentional injury; health care access, delivery, and financing; health professions development; and health data collection and research methodology. The statistical data base, currently under development, will provide data summaries on health issues of concern to minority populations.

NATIONAL AIDS PROGRAM OFFICE (NAPO)

The National AIDS Program Office (NAPO) serves as the senior policy office to the Assistant Secretary for Health (ASH) and the focal point for coordination and integration of the Public Health Service (PHS) efforts to prevent and control the occurrence and spread of HIV infection and AIDS. NAPO serves as the lead agency to coordinate the HEALTHY PEOPLE 2000 priority area on HIV infection. NAPO provides oversight of PHS's HIV/AIDS programs and research, identifying essential areas of collaboration for greater efficiency and more rapid progress.

Planning HIV/AIDS Goals. In its planning role, NAPO serves as the lead in identifying long range planning strategies that are critical to allocating PHS HIV/AIDS resources over the course of the epidemic. In its analytical and informational roles, NAPO assists ASH in responding to critical and fast-breaking HIV/AIDS-related issues. NAPO provides leadership in national planning for AIDS surveillance, prevention, research, and services:

- To establish multi-year functional strategies to combat HIV and AIDS;
- To charge each PHS agency and appropriate OASH staff office to develop and implement a detailed or "tactical" plan that expands upon this broader PHS plan; and,
- To disseminate, to the State and local governments, other Federal departments and agencies, Congress, and the public, information about PHS's strategies and efforts to combat HIV and AIDS.

The planning process extends to budget formulation and monitoring. These activities provide direction and feedback for adjustments of both planning and policy.

External Liaison. In a liaison role, NAPO plans and collaborates with other Federal departments, agencies, voluntary health organizations, advocacy groups, community-based organizations, and professional societies, among others, on recommendations that address cross cutting issues and policies.

NAPO Prevention Highlights

Institute of Medicine (IOM) Roundtable for the Development of Drugs and Vaccines Against AIDS. Through an intra-agency agreement with the Department of Veterans Affairs, NAPO provides support to the IOM. The purpose of the roundtable is to identify and help resolve impediments to the availability of safe and effective drugs and vaccines for HIV/AIDS.

National Congress of American Indians (NCAI). Through an intra-agency agreement with the Administration for Native Americans, NAPO provided support to NCAI—the oldest national tribal organization in the United States, which represents over 350 American Indian tribes and Alaska Natives. The purpose of the NCAI contract is to conduct the first National American Indian AIDS summit for educating tribal leaders on AIDS/HIV prevention at the tribal level; to work with tribal leaders and governments in the development and

adoption of resolutions addressing the special needs of infected tribal members, including access to health care and housing in urban, rural, and remote tribal settings; and to develop HIV/AIDS educational material in native languages.

OFFICE OF POPULATION AFFAIRS (OPA)

The Office of Population Affairs (OPA) administers the Title XX Adolescent Family Life Program and the Title X Family Planning Program. The activities of both programs are primarily preventive in nature. OPA serves in an advisory capacity to the Secretary, through the Assistant Secretary for Health, on policy and legislative issues; prepares reports on departmental and interdepartmental activities; and works in cooperation with other Federal agencies and concerned organizations in the area of population research and family planning services, training, and education. OPA serves as the lead agency for coordinating the HEALTHY PEOPLE 2000 priority area, family planning.

OPA Prevention Highlights

Office of Adolescent Pregnancy Programs. Adolescent sexual activity has increased in the last 10 years. There are an estimated 1 million adolescent pregnancies each year. In 1990, there were 533,483 births to adolescents—521,826 to girls aged 15–19 years and 11,657 to girls under 15 years of age. Adolescents are less likely to receive early prenatal care and are somewhat more likely to have low-birth-weight infants than women in their twenties.

Under Title XX of the Public Health Service Act, the Office of Adolescent Pregnancy Programs funds demonstration programs that test prevention services to encourage adolescents to postpone sexual activity and for providing care services for both pregnant and parenting adolescents. A major focus of the legislation for both the prevention and care components is an emphasis on family involvement. In addition, the Adolescent Family Life Program funds research on the determinants and consequences of adolescent pregnancy to facilitate a better understanding of these serious problems. A summary of projects is available. The program is currently funding 37 model demonstration projects and seven research projects. A broader mission for the program is planned to ensure a focal point for coordinated, comprehensive support to improve adolescent health.

Office of Family Planning. The Title X Family Planning Program grants funds for voluntary family planning services which include natural family planning, infertility services, services for adolescents, and family involvement. The program is designed to provide family planning services primarily to low-income individuals. To attain better data regarding demand for and use of family planning services, a new clinical data system was developed in 1993. A minority health study was conducted within Title X clinics to determine the level of minority leadership and staff. The results of this study were published in 1993 in cooperation with the National Family Planning and Reproductive Health Association. Within its training program, Title X has set aside special grant funds to increase the training of minority family planning nurse practitioners. The Title X program also funds the development of family planning information and education materials, and research to improve delivery of family planning services. The program provides support for 4,000 clinics that serve approximately 4 million women and about 90,000 men each year.

OFFICE ON WOMEN'S HEALTH (OWH)

The Office on Women's Health (OWH) was established in 1991 to advise the Assistant Secretary for Health on women's health issues and to coordinate women's health policies and programs across PHS agencies, offices, and regions. Other activities include monitoring implementation of the *PHS Action Plan for Women's Health*, promoting a PHS regional women's health agenda, and providing administrative and staff support to the PHS Coordinating Committee on Women's Health Issues. OWH serves as a co-lead on the HEALTHY PEOPLE 2000 work group on women.

OWH Prevention Highlights

PHS Action Plan for Women's Health. This key document provides a goal-driven blueprint for improving women's health in the areas of prevention, treatment and service delivery, research, and education and training. The plan identifies goals and action steps for priority health issues, including access to health care, participation in research, mental health, reproductive health, acute and chronic illnesses, and lifestyle behaviors.

PHS Action Plan for Women's Health: 1991 Progress Review. This document, the first in a series of annual reviews, identifies the status of initiatives undertaken by PHS agencies, offices, and regions to address women's health issues. Special attention is given to accomplishments, ongoing activities, and modifications to each of the goals and action steps outlined in the plan. Achievements include:

- The Alcohol, Drug Abuse, and Mental Health Administration (reorganized into the Substance Abuse and Mental Health Services Administration) addressed the needs of pregnant and post-partum women and infants exposed to alcohol and other drugs; supported investigations on gender differences for mental health conditions (e.g., depression, anxiety, eating disorders); and sponsored public housing demonstration grants that provide preventive and treatment services for women exposed to alcohol and other drugs;
- The Agency for Health Care Policy and Research implemented guidelines for ensuring the inclusion of women in all clinical research grant solicitations; developed clinical practice guidelines for mammography, urinary incontinence, and health care needs of women with HIV infection; and expanded research funding to increase knowledge about health care access for minority, low-income, and disabled women;
- The Centers for Disease Control and Prevention implemented initiatives to reduce the prevalence of smoking among women, especially adolescents; implemented the Breast and Cervical Cancer Mortality Act by funding State health departments for comprehensive early detection programs; and supported initiatives to lower the rate of sexually transmitted diseases among women;

- The Food and Drug Administration provided consumers, health professionals, and women's health advocates with information on medications, breast implants, mammography, food labeling, and HIV/AIDS; and collaborated with public health educators to develop training workshops and media programs.
- The Health Resources and Services Administration provided technical assistance to Ryan White/CARE Act grantees to develop standards of care for HIV-infected women and families; supported research and demonstration projects to reduce the prevalence of smoking among women; and funded a broad range of primary and specialty care services for underserved women in community and migrant health areas;
- The Indian Health Service (IHS) enacted a policy to provide comprehensive and continuous prenatal care for American Indian/Alaska Native women; implemented a Pap Smear Registry; and ensured availability of mammography services for women in all IHS service areas;
- The National Institutes of Health established the Office of Research on Women's Health to strengthen research on health conditions affecting women; implemented a policy requiring the inclusion of women in clinical research; and launched the Women's Health Initiative to examine the major causes of death, disability, and frailty in women 45 years of age and older: heart disease, stroke, breast and colorectal cancers, and osteoporosis.

PHS Regional Women's Health Agenda. OWH is actively (1) facilitating the roles of the women's health coordinators in the 10 PHS regions; (2) supporting the development and implementation of PHS regional women's, health policies, programs, conferences and other initiatives; and (3) sharing information on women's health issues.

PHS Coordinating Committee. Over the past decade, the PHS Coordinating Committee on Women's Health Issues has been instrumental in defining and guiding PHS initiatives for meeting priority health needs of women. OWH provides administrative and staff support for the committee, which includes membership from the PHS agencies, offices, and regions, as well as liaisons from other DHHS operating divisions.

Women's Health Projects. Due to the greater prevalence of illness, disability, and suffering endured by certain groups of women, OWH supported the following special projects:

- Indian Women's Breast and Cervical Cancer Project—a study of the effects of provider attitudes on increased utilization of breast and cervical cancer screening methods.
- Women of Color Health Education Coalition Project—a multicultural coalition whose goal is health promotion through health education programs for women of color and their families in Boston, Massachusetts;
- Transitional Health Program with Incarcerated Women—involves development of a cadre of interdisciplinary health professionals to provide leadership in the delivery of primary and preventive health care services to incarcerated black and Hispanic adolescents;
- School-Based Preventive Education for Native American Adolescent Women—provides health education on preventable cancers to Native American adolescents.

PRESIDENT'S COUNCIL ON PHYSICAL FITNESS AND SPORTS (PCPFS)

The President's Council on Physical Fitness and Sports was established in 1956 (as the President's Council on Youth Fitness) to combat poor physical fitness performance among this Nation's youth. In 1963, PCPFS responsibilities were expanded to include the adult population and sports. PCPFS works with other Federal agencies, State and local governments, schools and colleges, professional associations, sports organizations, and business and industries to carry out its mandate. PCPFS serves as the lead agency coordinating the HEALTHY PEOPLE 2000 work group on physical activity and fitness.

PCPFS Prevention Highlights

On June 22, 1993, President Clinton appointed Olympic gold medalist Florence Griffith Joyner and former Congressman Tom McMillen as co-chairs of the PCPFS. Their mandate is to advise the Secretary and the President on how we can enhance opportunities for all of our people to participate in physical fitness and sports activities.

Youth Fitness Emphasis. Youth physical fitness continues as a top priority. Each new generation, however, faces severe cutbacks in school physical education programs and in community programs which promote exercise throughout life. Several initiatives have been launched to reverse the trend of less physical activity. PCPFS is continuing to follow-up on former Chairman Arnold Schwarzenegger's visits to the 50 States by maintaining contact with and providing technical assistance to the governors' offices, key educators, and fitness leaders in each State.

Expanded School Testing Program. The President's Challenge Physical Fitness Test measures muscular strength and endurance, cardiorespiratory endurance, agility, and flexibility for students ages 6–17. The Presidential Physical Fitness Award recognizes those students who score at or above the 85th percentile on all five test items. The National Physical Fitness Award recognizes those boys and girls who score at or above the 50th percentile. The Participant Physical Fitness Award recognizes those students who attempt all five test items but whose scores fall below the 50th percentile on one or more of them. Children with physical disabilities are eligible for all three awards. One of the motivational programs associated with the award is "On Your Mark," sponsored by the Sugar Association.

Physical Fitness Demonstration Centers. The demonstration center program is conducted in cooperation with State Departments of Education. States identify elementary and secondary schools that represent the highest quality of physical education programs within the State. The schools agree to exhibit their programs to visitors, serving as referrals for people interested in visiting model programs. They receive a demonstration center flag and a certificate signed by the chairperson of the PCPFS.

State Champion Award. Each year, the 50 States, the District of Columbia, Puerto Rico, Guam, and the U.S. Overseas Schools are represented in the State School Championship Program for Physical Fitness. The competition is divided into three classifications, based on enrollment, and three schools are selected from each State, based on the percentage of 6- to 17-year-old children who earn the Presidential Physical Fitness Award. Winning schools receive a letter and a certificate from PCPFS and a State champion shoulder patch for each child who wins the award. Announcement of the winners is sent to the State Superintendent and Governor, as well as all members of Congress, who also recognize the winners.

National Summer Youth Fun and Fitness Program. PCPFS and the National Recreation and Park Association (NRPA) jointly sponsor this program, which encourages summer participation in fitness activities over a 6-week period for 6- to 12-year-old boys and girls. Participants receive a booklet and a game board at the start of the program and a certificate and T-shirt upon conclusion. Begun as a pilot in 9 cities in 1989, the program expanded to more than 150 cities in 1990, 1,500 in 1991, and 2,500 in 1992.

National Physical Fitness and Sports Month. May is National Physical Fitness and Sports Month. Thousands of communities celebrate in conjunction with National Physical Education and Sports Week, National Running and Fitness Week, All Children Exercising Simultaneously, National Employee Health and Fitness Day/Federal Fitness Day, and National Osteoporosis Week.

Leadership Recognition Programs. The Healthy American Fitness Leader Awards program, now in its 12th year, recognizes individuals who have, through personal example and service, promoted the ideals of health and fitness. More than 120 leaders have been identified, and the program continues with AllState Life Insurance sponsorship and U.S. Jaycees administration. PCPFS also periodically recognizes leadership and public service contributions through a series of awards, including the Distinguished Award.

National Fitness Coalition. A coalition between NRPA and PCPFS encourages local park and recreation systems to make fitness promotion a priority, increase public awareness of the local systems' role in fitness, promote fitness through recreation, and stimulate cooperative programs and demonstration projects.

Public Information Services. PCPFS distributes a bimonthly newsletter and public service announcements such as "Seniors and Fitness" with Milton Berle. A video titled "A Nation of Winners" was produced to emphasize participation in the Presidential Sports Award.

Federal Sector Programs. The Federal Interagency Health and Fitness Council, under the auspices of PCPFS, has encouraged the development of comprehensive programs at every level of government to address the issues of prevention, performance, and safety. Each year, workshops and seminars review worksite health promotion initiatives and performance. More than 300 government agencies now have fitness centers.

Older Adults. PCPFS's new campaign to promote exercise for adults 50 and above is the Silver Eagle Corps. This campaign is a comprehensive effort to encourage organizations and individuals to convey the message that physical activity is essential to successful aging.

Minority Sports and Fitness Focus. PCPFS has fostered a pilot program with the Chicago-area Illinois National Guard to train fitness volunteers to work with inner-city youth. If successful, the project could be replicated in more than 3,500 communities nationwide with National Guard Bureau facilities. Also, minority tennis clinics have been conducted in partnership with the U.S. Professional Tennis Registry, the U.S. Professional Tennis Association, and the U.S. Tennis Association, the governing body for the sport. One project, Across America Tennis Day, was conducted in more than 30 communities, emphasizing tennis as a lifetime fitness activity.

Family Fitness Focus. To encourage family members to exercise and eat right, the PCPFS launched "Wake Up! to Family Fitness," with the California Raisins media tour featuring Olympic gold medalist Kristi Yamaguchi. A brochure for home and school use in the Presidential Sports Award (PSA) program was also distributed. PCPFS lowered the entry age to 6 and added Family Fitness as a new umbrella for nearly 70 sports/fitness categories. This program is being offered to schools nationwide, largely as a noncompetitive inducement to be physically active at all ages.

Fitness and Nutrition. PCPFS co-presented at the 2nd International Conference on Fitness and Nutrition in Athens, Greece. A "Declaration of Olympia on Fitness and Nutrition" supported the HEALTHY PEOPLE 2000 objectives and the essential relationship between exercise and nutrition. PCPFS also joined with the National Association of Broadcasters (NAB) and Kelloggs to create and distribute information on the importance of both a good breakfast and exercise.

PCPFS co-sponsored a March 2, 1993, conference entitled "Building Alliances to Communicate Food, Nutrition, and Fitness Information to the Public." The overall goals of the conference were to bring together the leadership of private organizations and government agencies concerned with food, nutrition, and fitness to share information on existing programs and to determine future needs.

Native American Initiatives. The first Indian Youth Sports, Fitness, and Health Summit was successfully held in Washington State with the Yakima Nation and the surrounding communities. Supported by more than 35 tribal entities in the Northwest, the summit concept will be repeated in the Southwest as a major gathering of youth. PCPFS is in its 4th year of support for the Native American Women's Wellness IV Conference, as well as the Men's Wellness II Conference.

National 4-H Fitness Project. In its 7th year, this fitness focus for 5.6 million 4-H members, ages 9-19, has resulted in a formal agreement between the PCPFS, the USDA's Extension Service, and the National 4-H Council. Funded by the Sporting Goods Manufacturers Association and supported by national exercise, law enforcement, and education groups, the workshops have resulted in fitness and food and health projects in many State 4-H chapters.

Agency for Health Care Policy and Research (AHCPR)

The Agency for Health Care Policy and Research was created by Congress in December 1989. AHCPR serves as the Federal Government's focal point for health services research.

AHCPR's purpose is to enhance the quality of patient care services through improved knowledge that can be used to meet society's health care needs. The Agency seeks to achieve its mission through several broad goals: (1) promoting improvements in clinical practice and patient outcomes through more appropriate and effective health care services, (2) promoting improvements in the financing, organization, and delivery of health care services, and (3) increasing access to quality care.

In addition, AHCPR is responsible for facilitating the development, review, and updating of clinical practice guidelines for prevention, diagnosis, treatment, and management of conditions and clinical circumstances. The guideline development methodology emphasizes a comprehensive evaluation for empirical evidence, significant outcomes (including those important to patients), benefits and harms. Explicit documentation of methods, rationales, and assumptions is provided. Each guideline actually contains several parts: the technical guideline report, clinical practice guideline, quick reference guide for clinicians, and a patient/parents guide. Differences in practice by gender are included in all documents as warranted. The Agency for Health Care Policy and Research Reauthorization Act of 1992 explicitly includes prevention in the clinical guidelines program objectives.

AHCPR acquires, develops, and transfers new knowledge through a coordinated program of research, demonstrations, evaluations, and information dissemination activities. AHCPR also sponsors individual and institutional National Research Service Awards, which provide pre- and post-doctoral support for academic training and for research concerning health services research methods and problems. AHCPR also sponsors conferences on primary care research.

AHCPR Prevention Highlights

AHCPR has been addressing a broad range of issues identified in HEALTHY PEOPLE 2000, including the availability of qualified minority health professional researchers.

Medical Treatment Effectiveness Program (MEDTEP) Research Centers on Minority Populations. This AHCPR grants program provides assistance to minority health students and schools and supports health services research that addresses barriers to use, determinants of differential morbidity and mortality, institutional and programmatic influences, and cost-benefit/cost-effectiveness analysis of programs. Grants have been awarded to the following groups:

- Harlem Urban Health Research Institute, to study variations in treatment and outcomes for heart disease, hypertension, AIDS, and tuberculosis, and prevention of childhood injury among inner-city African Americans;
- Hawaii Asian Pacific Island MEDTEP Research Center, to examine community interventions to reduce the incidence of pulmonary tuberculosis, as well as the effectiveness of cancer treatment, type II diabetes, and asthma among Asian and Pacific Islanders;
- Morehouse Medical Treatment Effectiveness Center, to examine prenatal care, heart disease, hypertension, AIDS, and end-stage renal disease in African Americans;
- UCLA/MEDTEP Center for Asians and Pacific Islanders, to address geriatric issues and assess variations and outcomes of breast cancer treatment among Asian Americans, including the psychosocial aspects of treatment;
- Mexican American Effectiveness Research Center, to study functional status in the elderly, and variations and outcomes of treatment for diabetes, substance abuse, and depression among Mexican Americans;
- New Mexico MEDTEP Research Center on Minority Populations, to assess the effectiveness of mammography screening and the outcomes of type II diabetes therapy among American Indians.
- Five additional MEDTEP Research Centers were recently established at the University of California at San Francisco, University of Illinois, Henry Ford Hospital, Meharry Medical Center, and the University of Maryland.

Institute on Minority Capacity Building in Health Services Research. AHCPR organized this institute to familiarize participants with AHCPR's current research; to provide technical assistance in areas such as study design and statistical techniques; and to establish relationships between faculty and potential researchers in this area.

A selection of projects currently funded by AHCPR indicates a continuing emphasis on research related to clinical practice activities in prevention, especially rural and minority health promotion, and disease prevention activities and services. The AHCPR has also established, in cooperation with the Centers for Disease Control and Prevention, a panel of private-sector health care experts and consumers to develop clinical practice guidelines for smoking prevention and cessation.

Caregiving for Minority Women With AIDS. The purpose of this exploratory study is to describe caregiving patterns to generate new hypotheses on caregiving needs, community assistance, and gaps in services for minority women with AIDS. Minority women from a State-designated AIDS clinic will be interviewed and assigned to an interdisciplinary team including a psychiatrist, a medical specialist in AIDS, a nutritionist, and a case manager.

Evaluating RACE (Reducing AIDS Thru Community Education). This dissertation grant is aimed at evaluating the efficacy of a national AIDS education program targeting black church congregations and determining its potential for replication in other locations. A secondary analysis of data collected from focus group transcripts and surveys of 1,054 church members will be conducted to develop a descriptive analysis of the population reached through the project. The project expects to determine the effectiveness of churches in disseminating AIDS information in African American communities.

Multilevel Practice Model for Rural Hispanics. This project evaluates the success of a three-tiered community-based nursing delivery model in a Mexican American rural community, and uses quasi-experimental research design with measures of process, outcome, and impact. The demonstration component will develop and implement three nursing interventions: personal preventive nursing, organized indigenous caregiving, and community empowerment. The focus of both the model and the interventions is on improving the health of the population by directing the interventions to individuals and families, groups, and the community.

Dissemination of Prevention Guidelines to Harlem Physicians. Designed to develop a model for training of medical/primary care residents and attending physicians, the study will evaluate the impact of educational intervention on physicians' preventive health behaviors, attitudes, and practices in a large inner city hospital. The research methodology uses selected U.S. Preventive Services Task Force clinical practice guidelines to stimulate health promotion and disease prevention activities among practicing physicians and their patients.

WIC Breastfeeding Promotion—A Randomized Trial. The effectiveness of several interventions on starting and continuing breast feeding among low income women will be studied. Women from rural areas are randomized to receive either special WIC breast feeding counseling and reinforcement during regular WIC prenatal visits, or routine WIC prenatal visits or routine registration. After delivery, women will be randomized to receive either a non-formula discharge pack or a routine discharge pack which includes bottled formula. The results may lead to generalizable conclusions about barriers to and methods for increasing breast feeding in low income, rural populations.

Improving the Health of Medicaid-Eligible Infants. This pilot study tests the feasibility of combined home- and office-based interventions to improve utilization of care and health outcomes of Medicaid-eligible infants. Participants are 120 Medicaid-eligible pregnant women and their babies, and 4 pediatric practices in a 3-county area in North Carolina. They are randomly assigned to different interventions, which are expected to facilitate continuous and coordinated care. This pilot will determine if the interventions should be evaluated in a randomized trial in several North Carolina communities.

Primary Care for High-Risk Indigent Infants. This experiment tests an intervention of providing higher intensity post-discharge care to high-risk, low-birth-weight infants. The objectives are to reduce infant mortality, morbidity, and need for intensive care in the early months following delivery. It will be implemented in a hospital with a sizable proportion of such infants from low-income families.

State Medicaid Policies for AIDS-Related Health Care. The Medicaid program in each State is being surveyed by mail to collect data on the reimbursement and coverage of AIDS-related hospital services, nursing home care, home health and hospice care, physician services and prescription drug coverage. The data from these surveys will be used as a catalog of current Medicaid reimbursement, coverage and eligibility policies for health services provided to Medicaid recipients with AIDS.

The Effects of Rural Obstetric Care Provider Shortages. This population-based cohort study addresses whether women residing in rural areas with shortages of obstetric providers are: (1) more likely to delay the receipt of prenatal care than other women; (2) receive adequate prenatal care; (3) more likely to experience adverse pregnancy outcomes such as low birth weight, neonatal mortality, and perinatal mortality. The study uses data from a statewide assessment of obstetric care provider availability, vital records, and maternal Medicaid enrollment. A nested case control study using data from a statewide Perinatal Risk Factor Surveillance Program will explore the influence of obstetric providers and maternal residence on the recognized risk factors associated with adverse perinatal outcome such as maternal lifestyle, medical risk factors and complications of labor and delivery.

Influencing Obstetric Care for Minority, Poor, and Rural Women. The primary focus of the study is to investigate the hypothesis that there is variation in the care pregnant women receive based on ethnicity, Medicaid status, and the location of the provider. The study uses previously collected data which includes all providers of obstetrical services including hospital deliveries in Washington State. Criteria for patient selection were: entered prenatal care during first trimester; between 18 and 34 years of age; and had no previous important medical problems. The study will contribute to our knowledge of the prenatal care received by minority and Medicaid-eligible women.

Patient Notification and Follow-up of Abnormal Mammograms. This retrospective cohort study of 1,000 women with abnormal screening mammograms is designed to determine the magnitude of the problem of inadequate follow-up. Problems with notifying patients will be identified. Among women advised to have follow-up, risk factors for noncompliance will be determined through interviews. Questions elicit information about potential barriers to compliance as well as health beliefs and health behaviors, thus contributing clues about ways to improve health services delivery.

Guidelines for HIV Screening. The project collects financial data from a VA Hospital, a large HMO, and an ambulatory academic practice, in addition to published data, to develop an HIV screening guideline applicable to the general population. The importance of selected variables, and the benefits of knowing the differences in these variables, will be used in estimating the cost-effectiveness of using the guideline for screening.

Lifestyle and Diabetic Amputation in Pima Indians. This retrospective case-control study examines the relationship between amputations in diabetic Pima Indians and related clinical, demographic, and lifestyle factors. Using existing IHS medical records, first lower extremity amputations for adult diabetic Pima or Tohono O'odham Indians on the Gila River reservation are compared to diabetic controls without amputation for the period 1985 to 1992. Logistic regression is being used to estimate odds ratios for amputation. A methodologic study on the feasibility of developing a diabetes registry from automated IHS clinic data is also being performed. The findings should be beneficial for the prevention of complications of diabetes.

A Comparison of S/HMO and TEFRA HMO Enrollees. This study is designed to compare the cost and use of health care services and health and functional status measures for enrollees in a Social Health Maintenance Organization (S/HMO) with those enrollees in a TEFRA-risk Medicare HMO. Coverage is identical except for the S/HMO's long-term care and case management services. Cost and utilization data will be collected for two observational periods: the year prior to the collection of the mailed survey data, and the year following the mailed survey. Relationships between cost, utilization, and health/functional status (as outcome measures) will be examined using the pre-survey utilization and cost data. The findings will evaluate this innovative approach to organizing, financing, and delivering health care services which attempts to control resource use while providing high quality care.

Diffusion and Adoption of Children's Vaccine Guidelines. In a nationally representative sample of pediatricians, family physicians, and general practitioners, this study will identify the physician's awareness of children's vaccines guidelines, document actual compliance with these guidelines, and delineate the possible barriers to implementation.

Implementations of Guidelines in a Large Group-Practice HMO. This study evaluates strategies for implementing clinical practice guidelines and the effect of guidelines on the delivery of primary care in large group practices. The study randomizes 250 primary care physicians in an HMO to one of four arms (academic detailing, continuous quality improvement, both, or neither) and then evaluates the effects on the implementation of clinical guidelines for hypertension and depression. Outcomes measured are changes in patient blood pressure, scores on a depression instrument (Beck Depression Inventory), and costs of care. Provider knowledge and satisfaction are also surveyed. The design will permit testing of interactions between clinical practice guidelines and implementation interventions.

Retention of Physicians in Community Health Centers. A survey of physicians' current and previous practice in community and migrant health centers is being conducted to determine factors associated with retention of primary care physicians. The findings are expected to address issues related to effective recruitment and retention.

Migrant Farm Workers' Health Needs and Access to Service. Health conditions, utilization patterns, and unmet needs of migrant farm workers in Wisconsin are being compared to determine whether self-perceived health needs, barriers to care, and medical utilization changed between 1978 and 1989. Analyses are underway to test hypotheses related to the proportions of migrants, by education, age, and income, who perceive their health as fair or poor; who state they have never seen a dentist; who report chronic illness such as hypertension, diabetes, and arthritis; and use State vouchers for payment of provider services.

Physical Health and Medical Care in a Homeless Cohort. This study defines and determines the predictors of the natural course of physical health status, health services utilization, and self-reported compliance with prescribed treatment among a community cohort of homeless adults. It will be linked with an ongoing National Institute of Mental Health study which focuses on demographic, social, and mental health characteristics surrounding intervals of homelessness. This study is testing the hypothesis that as persons with one or more of the monitored conditions exit or reduce homelessness, their medical conditions will improve in 6 months, they more than likely obtain *outpatient* medical care, they will more than likely comply with prescribed medical therapy, and will less likely have hospital care during a 12-month period.

Health Insurance for the Low Income: An Evaluation. This project evaluates the impact of the State of Washington's Basic Health Plan (BHP) on access to care. BHP is a State-subsidized voluntary health insurance plan for low-income and uninsured persons, with emphasis on preventive care. Services are provided by managed health care systems under contract to the State. The findings can provide policymakers with information about programmatic issues critical to the success of a State-subsidized insurance approach.

Strategies for Management of Dental Caries in Children. This study examines the effect that early intervention with dental sealants versus later intervention with restorative dentistry has on patient outcomes. Three separate sets of analyses will be conducted using 1983–1990 data for approximately 170,000 North Carolina Medicaid dental users 5–17 years of age. These findings will assist in providing a rationale for sealant reimbursement policy.

Resident Physician Practice Style and Patient Outcomes. At the University of California—Davis, 500 nonpregnant new adult patients will be randomized to receive primary care through either the family medicine or internal medicine clinic. Baseline information will be collected and the visit with the resident physician videotaped for evaluation using the Davis Observational Code. Two additional visits will be taped over the study year. Evaluations of functional status, patient satisfaction, and physiological parameters are being collected at baseline and at the end of the year. The study will document the relationship between physician practice style and outcome and will be useful in the future training of primary care physicians.

Practice-Based Research on Low Back Pain in Primary Care. The study is to be conducted in both the United States and the U.K. via practice-based research networks. The data gathered will include demographic, occupational, compensation, and clinical characteristics; patterns of diagnostic evaluation and therapies received from all sources and their perceived effectiveness; and patient utilization of health care resources for back problems within 2 months of initial presentation and outcomes at 2 months. The study addresses the need for descriptive information on low back pain in the context of rehabilitation and disability compensation, creates a data set for secondary analysis, and serves as a pilot for a larger international study in primary care networks.

Measuring Effectiveness of Clinical Management Systems. Measures of performance will be developed for 12 clinical management systems in the areas of provision of care, completion of workups, implementation of treatment decisions, implementation of preventive care, and communication with patients. The study will be implemented at four sites in

two major ambulatory health care systems. Error rates and patterns of errors between plan data and patient reported data will be ascertained and used to construct performance rates which will be combined into a profile of performance scores for feedback to the plans. It is expected that patient-based information will be less intrusive and expensive to obtain than health plan data and that it can be used to develop valid indicators of overall system performance.

Agency for Toxic Substances and Disease Registry (ATSDR)

The Agency for Toxic Substances and Disease Registry (ATSDR) was created in 1980 as a separate entity of the Public Health Service (PHS) by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), or what is more commonly known as Superfund. The mission of ATSDR is to prevent or mitigate adverse human health effects and diminished quality of life resulting from exposure to hazardous substances in the environment. ATSDR determines the links between human exposure to hazardous substances and any increased incidence of adverse health effects by applying state-of-the-art scientific methods, creating and building relevant data bases, and identifying appropriate target populations for investigation. ATSDR has responsibility to (1) detect the presence and assess the nature of health hazards at Superfund sites, (2) help prevent or reduce further human exposure to hazardous substances and diseases resulting from such exposures, and (3) expand and communicate the scientific knowledge base about health effects resulting from exposure to hazardous substances. ATSDR is also responsible for the tracking and implementation of 4 of the 16 environmental health objectives of HEALTHY PEOPLE 2000 and is a participant on the work group tracking all of the environmental health chapter objectives.

ATSDR Prevention Highlights

Health Assessments. ATSDR performs public health assessments of all sites proposed for or listed on the National Priorities List, and in response to petitions for health assessments received from the public. A public health assessment is an integrated evaluation of environmental contamination data, community health concerns, and health outcome data. The purposes of the public health assessment are to (1) identify hazards posed by hazardous waste sites and (2) identify affected communities, including persons living and working near these sites, for whom public health actions are necessary. During the period October 1, 1991, through September 30, 1992, ATSDR, in collaboration with 21 State health departments, completed 233 public health assessments, including 19 petitioned health assessments.

Toxicological Profiles. ATSDR develops profiles on the toxicological characteristics of the ATSDR/EPA Superfund Priority Hazardous Substances. ATSDR has developed 145 profiles for 209 of the 275 Priority Hazardous Substances. These documents are used domestically and internationally to communicate substance-specific information and are used by health professions while conducting public health assessments and evaluations. The total number of profiles distributed since 1987 is estimated to exceed 1 million. ATSDR now distributes final profiles free of charge to approximately 2,100 recipients at Federal, State, and local public health agencies, academia (libraries and departments in toxicology or related fields), and nonprofit organizations.

Great Lakes Human Health Effects Research Program. During FY 1992, ATSDR announced a $2 million grant program to conduct research on the human health impact of fish consumption in the Great Lakes region under the Great Lakes Critical Programs Act of 1990. ATSDR announced nine awards under this program. Research undertaken through this program will build upon and amplify the results from past and ongoing fish consumption research in the Great Lakes Basin. Information gained from these efforts can then be related to national human health research efforts and be used to develop data bases, and research methodologies that will provide long-term benefits to the Great Lakes human health research effort. This applied research effort will provide information to State and local health departments for use in refining fish consumption advisories, medical practice, and public education. Additionally, research from this program will provide information to address specific data needs for priority hazardous substances identified by ATSDR.

Priority Health Conditions. ATSDR has developed a list of priority health conditions to (1) help define health conditions that should be considered most important during evaluation of populations living near hazardous waste sites; and (2) identify areas for research in assessing the association between exposures to hazardous substances and adverse health outcomes. The priority health conditions were selected based on the frequency of occurrence of adverse human health conditions associated with the most hazardous substances at hazardous waste sites, the severity of the adverse human health conditions, the frequency or extent of concern expressed to physicians and other public health practitioners by persons living near hazardous waste sites, and the ability to effect the illness through prevention activities or medical care. The ATSDR priority health conditions, in alphabetical order, are (1) birth defects and reproductive disorders, (2) cancer of selected anatomic sites, (3) immune function disorders, (4) kidney dysfunction, (5) liver dysfunction, (6) lung and respiratory diseases, and (7) neurotoxic disorders. Six studies have been initiated in State health department and State-based universities focusing on lung and respiratory diseases and birth defects and reproductive disorders.

Health Studies. ATSDR completed seven studies that provided information about the biological uptake of hazardous substances in humans. Four of the studies emphasized evaluations of the manner, or pathways, of exposure. Soil was the pathway of exposure for studies of heavy metals, volatile organic chemicals, and polychlorinated biphenyls (PCBs). Two

studies of populations living in areas contaminated by lead from mining activities were completed. The results of the study of residents of Aspen, Colorado, living near the Smuggler Mountain Superfund site, are of considerable interest. Although the blood lead concentrations among children were very low, the study was important in that the exposure findings conflicted with previously developed models that had predicted higher blood lead levels. These findings have initiated additional environmental and biological studies about the bioavailability of lead in varying States. Another study evaluated exposures to pesticides from the consumption of contaminated fish. The consumption of pesticide-contaminated food, such as fish, is an important problem because of the stability and bioaccumulation of some pesticides. The study demonstrated that the consumers of fish from contaminated areas were nearly 5 times more likely to have elevated serum levels of a metabolite of the pesticide chlordane, a suspected carcinogenic substance.

National Exposure Registry. The ATSDR National Exposure Registry is comprised of chemical-specific subregistries designed to aid in assessing the long-term health consequences of low-level, long-term exposures to hazardous chemicals identified at hazardous waste sites. The goals of the National Exposure Registry are to facilitate epidemiological research, to facilitate State and Federal health surveillance programs, and to provide current relevant information to exposed persons. Also, registries serve an important role in ensuring the uniformity and quality of collected data across different sites. Four hazardous substances have been selected for the chemical-specific subregistries that currently make up the National Exposure Registry: (1) trichloroethylene (TCE), (2) dioxin, (3) benzene, and (4) chromium. Participation by community residents in an exposure subregistry is voluntary. Response rates for the subregistries developed by ATSDR have been very high, averaging more than 97-percent participation by exposed people. ATSDR routinely informs registrants of new developments related to chemicals of concern.

Health Education. In 1990, ATSDR began developing a series of monographs entitled *Case Studies in Environmental Medicine* to inform health care professionals of health effects caused by hazardous substances in the environment. These self-instructional exercises in environmental medicine are designed to guide primary care practitioners in the diagnosis, treatment, and surveillance of disease among people exposed to hazardous substances in the environment. Seventeen of the monographs in the series are now in print, with 16 more in production. In FY 1992, ATSDR distributed over 100,000 copies of the monographs to health care professionals throughout the United States. Nearly 1,800 health professionals received either continuing medical education or continuing education unit credit for their participation in the case studies program.

Minority Health Program. ATSDR has established a consolidated ATSDR Minority Health Program to (1) determine and continue to define the extent to which minority populations bear a disproportionate burden of illness and injury as caused by exposure to hazardous waste and releases into the environment; (2) design and implement specific health and risk communication strategies for minority populations; (3) design and implement public health interventions and programs that (a) define and respond to the particular needs of minority populations, and (b) evaluate and address differences among cultural and ethnic groups; and (4) continue collaborative efforts with academia to increase the number of minorities trained in the environmental health sciences.

Centers for Disease Control and Prevention (CDC)

The Centers for Disease Control and Prevention's vision for the future is of "healthy people in a healthy world." The mission of CDC is to promote health and quality of life by preventing and controlling disease, injury, and disability. As the Nation's prevention agency, CDC accomplishes its mission by working with partners throughout the Nation and the world to:

- monitor health
- detect and investigate health problems
- conduct research to enhance prevention
- develop and advocate sound public health policies
- implement prevention strategies
- promote healthy behaviors, and
- foster safe and healthful environments

CDC strives to achieve national prevention objectives by coordinating surveillance, data collection and analysis, epidemiologic investigations, and laboratory research; by serving as national and international reference laboratories; by providing technical assistance, grants, and cooperative agreements to State and local health departments; and by collaborating with partners in academic institutions, volunteer and professional organizations, medical care settings, philanthropic foundations, and business and labor groups.

THE NATIONAL IMMUNIZATION PROGRAM (NIP)

The National Immunization Program was established in May 1993 to provide national leadership for planning, coordinating, and conducting Federal, State, and local immunization activities. In carrying out this mission, the National Immunization Program (1) assists State and local health departments to develop and implement programs for the prevention, control, and eventual eradication of diseases for which effective immunizing agents are available; (2) supports the establishment of vaccine supply contracts for vaccine distribution to State and local immunization programs; (3) assists States and local health departments in developing systems to identify children who need vaccinations, help parents and providers assure that all children are immunized at the appropriate age; assess immunization levels at State and local levels; and monitor the safety and efficacy of vaccines; (4) administers research and operational programs for the prevention and control of vac-

cine-preventable diseases; and (5) supports a nationwide framework for effective surveillance of designated diseases for which effective immunizing agents are available.

NATIONAL CENTER FOR CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION (NCCDPHP)

The National Center for Chronic Disease Prevention and Health Promotion is concerned with chronic diseases and conditions that can be prevented or mitigated by personal behavior choices. NCCDPHP stresses the translation of research findings into effective community-based programs, strengthening the delivery of preventive health services, and designing programs to meet the needs of minority groups. NCCDPHP has assumed the lead role for CDC in coordinating the tracking and implementing of the diabetes and chronic disabling conditions, educational and community-based programs, and tobacco priority area objectives for HEALTHY PEOPLE 2000.

NCCDPHP Prevention Highlights

Preventive Health and Health Services (PHHS) Block Grant. Established in 1982, the PHHS Block Grant has been newly reauthorized and focuses on the achievement of the HEALTHY PEOPLE 2000 objectives, including provisions for States to create health plans, improved annual reporting of program activities, and targeting of public health interventions to populations in need. FY 1993 funding is $148.8 million. Eligible grantees are the 50 States, the District of Columbia, the 8 U.S. Territories, the Kickapoo Tribe of Kansas, and the Santee Sioux Tribe of Nebraska.

The Block Grant is the primary source of Federal funding to States for health education/risk reduction activities, cholesterol and hypertension screening, emergency medical services, and sex offenses prevention programs. It is also a leading source of funds to support laboratories, dental health/fluoridation programs, environmental health activities, and rodent control programs. The flexible provisions of the grant allow States to address health problems and target populations most in need.

National AIDS Information and Education Program (NAIEP). The National AIDS Information and Education Program, which became operational in mid-1987, is responsible for the national "America Responds to AIDS" (ARTA) information campaign, the CDC National AIDS Hotline, and the CDC National AIDS Clearinghouse. NAIEP provides assistance to national, regional, community-based, and minority organizations to build their capacity to deliver AIDS prevention programs.

NAIEP is applying mass communication evaluation guidelines recommended by the National Academy of Sciences and testing evaluation methods that have been used in the private sector. Phase VI of the ARTA campaign released in March 1991 had the theme, "Americans Working Together to Prevent HIV and AIDS." The campaign has three objectives: (1) to increase the salience of HIV and AIDS as an important health issue in terms of an individual's risk and of the epidemic's societal impact, (2) to increase the proportion of the population who appropriately adopt or maintain the behaviors that lower the risk of HIV infection, and (3) to increase the proportion of the population who appropriately seek HIV counseling, testing, and early intervention services.

A cooperative agreement with the American Red Cross has developed a component of the campaign targeted to Hispanic populations that is receiving widespread acclaim as an outstanding example of an adult-education, low-literacy information program. The program is being delivered in cooperation with the National Council of La Raza. The American Red Cross, through its national leadership and network of over 2,800 chapters, continues its education efforts with (1) the general public, (2) the black community, in cooperation with the National Urban League, (3) business, labor, civic, and social organizations, and (4) educational institutions.

The national and regional minority organization program of CDC has awarded 32 grants to minority organizations involved in HIV prevention. Major progress has been made to promote understanding and positive involvement of churches and synagogues in HIV and AIDS prevention efforts.

Through its business initiative, "Business Responds to AIDS," NAIEP works with public and private sector organizations to stimulate greater participation of HIV/AIDS prevention, information, and education efforts among national organizations and institutions, including voluntary and service organizations, to develop and implement HIV information and education programs and to coordinate those efforts with national, State, and local public sector programs. At the Federal level, NAIEP participates with other Federal agencies responding to AIDS, including agencies within the Public Health Service and the Departments of Labor, Commerce, and Veterans Affairs, and the Small Business Administration.

Prevention Centers Program. The goal of the Prevention Centers Research Program is to bridge gaps between scientific knowledge and public health practice. Seven academic-based centers work with State and local health departments and communities to rapidly transfer research results to improve health promotion and disease prevention efforts.

Research activities in FY 1993 have focused on ethnic and minority populations, rural communities, worksites, and youth and older adults. For example, the Columbia University School of Public Health/Harlem Hospital Prevention Center was established to reduce excess mortality and morbidity in Harlem. The University of Washington Center for Health Promotion in Older Adults is working to identify modifiable risk factors affecting the leading causes of disability, illness and early death in older adults.

Behavioral Risk Factor Surveillance System (BRFSS). NCCDPHP has provided resource assistance to 45 States and the District of Columbia to enable them to monitor the prevalence of major behavioral risk factors associated with leading causes of premature death and disability in the United States. Monitoring is accomplished with telephone surveys using random-digit dialing and computer-assisted telephone interviewing methodologies. States are using the data to develop statewide objectives for the reduction of these risks; monitor the impact of new legislation, such as mandatory seat belt use laws; and improve their prevention programs.

Cardiovascular Health. CDC conducts surveillance and applied epidemiologic research on cardiovascular disease and as-

[illegible] risk factors. A national coronary heart disease surveillance report and a companion report on stroke surveillance help set priorities, target community intervention efforts, and monitor progress in preventing the most common cause of death in the United States. CDC collaborates with States such as New York and Missouri to conduct and evaluate community-based intervention projects to prevent cardiovascular disease. CDC works with the Indian Health Service to design, implement, and assess community-based interventions for American Indians in the Bemidji (Minnesota) service area.

Cancer Prevention and Control. CDC collaborates with public health agencies, voluntary organizations, and other Federal agencies to develop activities designed to decrease morbidity and mortality from selected cancers. FY 1993 appropriations of $72.5 million for the "Breast and Cervical Cancer Mortality Prevention Act of 1990" are enabling CDC to support the development and implementation of breast and cervical cancer programs in 30 States. These programs benefit all women but specifically target minority and underserved women. CDC also guides national level activities in the areas of provider education, public education, quality assurance of mammography and Pap tests, surveillance, and evaluation. CDC is collaborating with other PHS agencies to implement a strategic plan to address issues pertinent to breast and cervical cancer control. The National Institute on Child Health and Human Development funded CDC to be the Data Coordinating Center for a population-based case-control study to assess the relationship between the risk of breast cancer and the prior use of oral contraceptives among U.S. women ages 35–64.

Prenatal Smoking Cessation (PSC) Program. Smoking is a major cause of low birth weight, and is a leading contributor to infant mortality. One of every four women in the United States smokes during pregnancy and 25 percent of low-birthweight births may be attributed to smoking during pregnancy. The PSC program's main goal is to reduce smoking during pregnancy by promoting integration of prenatal smoking cessation counseling into routine prenatal care. In FY 1993, CDC provided direct support to 12 State health departments in developing, implementing, and evaluating prenatal smoking cessation programs for pregnant smokers who use public prenatal clinics and Women, Infants, and Children (WIC) program clinics. In FY 1994, CDC will focus resources in three major areas: (1) disseminating prenatal smoking cessation information to health care providers through the development of a national prenatal smoking cessation data base, (2) training maternal and infant health care providers in prenatal cessation counseling techniques, and (3) funding further evaluation of intervention strategies for pregnant smokers.

Infant Health. CDC is helping States enhance their surveillance of behavioral risk factors and prevention practices related to pregnancy and infant health through two surveillance systems: one surveys women who have recently given birth; the second involves expanding a surveillance system in 25 States to collect information from high-risk pregnant women who participate in publicly funded prenatal care programs. CDC will initiate new research activities for examining the difference between black and white rates of infant morbidity and mortality. These include studies of (1) previously unrecognized risk factors for preterm delivery and (2) risk factors for post-neonatal mortality. CDC assists States in building their analytic capacity to use epidemiologic and surveillance data to address problems affecting women, infants, and children through short-term technical assistance, assignment of epidemiologists to State maternal and child health programs, and assistance in the development of State-based epidemiology centers.

In recent years, there has been little or no improvement in the prevalence of iron deficiency anemia in women, especially during pregnancy. Iron deficiency has been associated with adverse pregnancy outcomes, especially with pre-term births. This problem continues in spite of the fact that pregnant women are usually prescribed prenatal iron supplements during pregnancy. CDC has initiated a pilot project to demonstrate the effectiveness of a targeted intervention program to reduce the high prevalence of iron deficiency anemia among low-income pregnant women.

Physical Activity and Health. Physical activity has been demonstrated to be an important risk factor for coronary heart disease and other chronic diseases. Given the large proportion of sedentary people in the United States, the potential health benefits of increased physical activity are great. CDC monitors physical activity trends through the BRFSS. Workshops and ongoing discussions with leaders in the scientific community are held to determine the public health message regarding physical activity. Special projects assess determinants of and barriers to physical activity in minorities, women, older adults, and other underserved populations at risk. Community-based intervention projects attempt to increase physical activity levels in poor, predominantly black communities. A handbook for promotion of physical activity by State and local health departments has been developed and will be widely disseminated.

Adolescent and School Health Programs (ASHP). CDC actively supports 54 State/Territorial and 17 local education departments and 23 national organizations to provide education in HIV risk reduction to youth. In FY 1993, CDC began to support comprehensive school health program activities in the Arkansas, District of Columbia, Florida, and West Virginia State education agencies. All received cooperative agreement funds to undertake three activities. First, a senior level staff person will be hired by both the Department of Health and the Department of Education. These individuals will be located within the Office of the Superintendent of Education and Commissioner of Health and will work to improve the infrastructure within both departments to promote comprehensive school health programs. Secondly, a Coordinator for Comprehensive School Health Programs will be placed within the Department of Education to direct programmatic efforts. Finally, school health efforts within the State will be expanded to include prevention of tobacco use, sedentary lifestyle, and nutrition habits that result in chronic illness. In addition, CDC is working to develop guidelines for school-based programs for nutrition, for physical activity, and for comprehensive school health education.

The 1993 Youth Risk Behavior Survey (YRBS) was conducted by CDC at the national, State, and local levels to monitor the prevalence of health-risk behaviors among samples of school-aged youth. CDC also initiated plans to conduct the National School Health Study, a survey of school policies and

programs that support comprehensive school health education in grades kindergarten through 12th. The study will provide baseline data on 17 HEALTHY PEOPLE 2000 objectives and will be available in 1995.

CDC has established a network of Comprehensive School Health Education Teacher Training Centers that train teachers to implement comprehensive school health education, including education to prevent HIV infection. In FY 1993, there were training centers in 40 States, with plans to establish a training center in every State.

Community Recognition. The Secretary's Community Health Promotion Awards Program has recognized over 850 local programs throughout the United States since 1983. In July 1993, the 1994 Awards Program began. All States and Territories are invited to participate.

HIV Prevention in Women. By 1990, HIV/AIDS had become the sixth leading cause of death in women 25-44 years of age. The prevention of HIV infection in women is supported through a multisite project aimed at developing and evaluating clinic-based interventions among women at risk for HIV infection. This project also aims to prevent HIV infection in infants by preventing unintended pregnancies among HIV-infected women. Project CARES (Comprehensive AIDS Reproductive Health and Education Study) sites use community outreach to recruit and refer women into family planning and HIV clinics, and offer family planning services in homeless shelters and drug treatment centers.

CDC has collaborated with clinics (including family planning clinics) to design and apply a service model to evaluate the integration of HIV education, counseling, and testing services into existing services for women. The goal is to provide guidance to clinic managers and suggest ways to improve these services for women in clinics. In FY 1993, CDC tested the service model in the 15 clinics in New York, Seattle, and San Francisco to document how well services have improved and been integrated into existing services for women. The study will be expanded to other types of clinics such as urban and rural family planning clinics.

Health Education and Health Promotion Programs. CDC provides professional development, capacity building, and coordination with various organizations. The annual National Health Education and Health Promotion Conference, held in cooperation with the Association of State and Territorial Directors of Public Health Education, provides the major source of continuing education for State-level public health education staff. CDC continues to coordinate and expand the use of the Planned Approach to Community Health (PATCH) by State and local health departments by training State PATCH coordinators in the methods and applications of this community planning model. CDC is also developing the use of worksites as channels for health education and health promotion programs.

Tobacco and Health. CDC conducts epidemiologic analyses of tobacco use and tobacco-related morbidity and mortality, monitors trends in tobacco control legislation and policy issues, provides technical assistance to States in planning and conducting local tobacco control programs, conducts national public information and education campaigns through the mass media, and maintains national data bases on tobacco and health.

CDC produces the annual report of the Surgeon General on the health consequences of smoking. The next report, *Preventing Tobacco Use Among Young People*, focuses on the initiation of tobacco use among America's youth.

In 1991 and 1992, CDC published a series of articles and special reports on young people's use of tobacco products based on data from the 1989 Teenage Attitudes and Practices Survey (TAPS). In 1994, CDC will issue the results of the 1993 TAPS follow-up survey.

In January 1993, CDC launched a national public education campaign to inform the general public, parents, and workers of the health risks posed by secondhand tobacco smoke. This campaign coincided with the release of a major risk assessment by the Environmental Protection Agency that classified secondhand smoke as a known cause of cancer in humans. Also, CDC, in collaboration with the National Medical Association, released an advertising campaign targeting African Americans. Through a 1-800 number included in the advertisements, individuals can request a culturally appropriate quitting guide.

Diabetes. The goal of CDC's diabetes prevention and control program is to reduce the morbidity, premature mortality, and cost burdens resulting from diabetes and its complications. To achieve that goal, CDC provides financial assistance, programmatic consultation, educational materials for health professionals and persons with diabetes, and guidance in community-based intervention planning to 26 States and 1 territory to implement State-based Diabetes Control Programs. CDC has also initiated a major demonstration project, Diabetes Intervention Reaching and Educating Communities Together, which focuses on reducing the burden of diabetes in two North Carolina communities with large African American populations. The project, which is jointly supported by CDC and the Agency for Health Care Policy and Research (AHCPR), will apply both primary and tertiary interventions.

Nutrition. In 1990, CDC produced and disseminated a manual entitled *Nutrition Intervention in Chronic Disease: A Guide to Effective Programs* that provides information on building partnerships and developing specific interventions at the community level. A national satellite training program using this manual is planned for State and local agencies. CDC, along with other Federal agencies, provided support to the Association for State and Territorial Public Health Nutrition Directors to devise specific strategies and tactics to achieve dietary change to prevent chronic disease. The process includes diverse partners from industry, nonprofit and professional organizations and the Federal Government. Four States collaborated with CDC in a worksite-based cholesterol reduction project. The project demonstrated reduced cholesterol levels following nutrition intervention. Harvard and Minnesota Schools of Public Health collaboration continued to investigate the long-term effects of voluntary weight loss. CDC collaborated with Ohio's WIC program to improve the iron status of women through supplementation with a new low dose iron pill that will cause fewer side effects. The CDC and the Human Nutrition Center at the University of Texas School of Public Health are collaborating on a project to assist States to collect and use dietary data in a variety of settings. The assistance will consist of providing software and technical assistance in dietary assessment methods in community surveys and/or health services.

Health Promotion for Older Adults. CDC focuses applied research and programmatic efforts on musculoskeletal diseases (osteoarthritis, osteoporosis), chronic neurological diseases (Alzheimer's disease, Parkinson's disease), urinary incontinence, and the development of measures of health status and quality of life. Musculoskeletal diseases are the most prevalent chronic diseases, affecting 37 million persons in the United States. A 3-year study of osteoarthritis in Johnston County, North Carolina, will determine the incidence, prevalence, and natural history of hip and knee osteoarthritis in a rural community with a large black population. Osteoporosis surveillance and intervention demonstration projects are underway in New Jersey and Colorado. A survey of perimenopausal women in Atlanta will assess women's knowledge and attitudes about hormonal replacement therapy. Other efforts include studies of the incidence, prevalence, and risk factors for Alzheimer's disease, a condition that affects 4 million people, and an ongoing project with the Indian Health Service to develop a model comprehensive health care program for older American Indians.

Unintended Pregnancy. Over one-third of recent births in the United States have resulted from unintended pregnancies. CDC is engaged in activities to reduce the incidence of unintended pregnancy. Using focus groups, factors that indicate how women and their partners choose whether to use birth control and factors that affect the selection and effectiveness of specific methods were separately evaluated among white, black, and Hispanic women. Studies are planned to examine how life experiences, and other characteristics (i.e., employment, education, marital status, childbearing, family relationships, behavior, and personality) influence the risk of unintended pregnancy. CDC will assist the Arizona State Health Department in conducting a statewide reproductive health survey, which will oversample Hispanics. CDC is also working with Emory University to identify determinants of unintended pregnancy using on a theoretical model developed from the psychosocial literature.

NATIONAL CENTER FOR ENVIRONMENTAL HEALTH (NCEH)

The National Center for Environmental Health strives to improve human health and quality of life by preventing environmental disease, birth defects, and disability. NCEH conducts programs designed to assist the public health community in the surveillance, investigation, analysis, prevention, and control of environmentally induced health problems. NCEH has lead responsibility within CDC for the tracking and implementing of the environmental health priority area objectives for HEALTHY PEOPLE 2000.

NCEH Prevention Highlights

Surveillance and Prevention of Birth Defects and Developmental Disabilities. NCEH monitors the occurrence of over 150 types of birth defects through two major surveillance systems using hospital discharge data: the Birth Defects Monitoring Program and the Metropolitan Atlanta Congenital Defects Program. NCEH also provides support to State-based birth defects surveillance programs. NCEH also conducts population-based surveillance of four major developmental disabilities using special education through the Metropolitan Atlanta Developmental Disabilities Surveillance Program. These programs serve as a basis for epidemiologic research to find causes of birth defects and developmental disabilities, to develop and evaluate prevention strategies, and to provide guidance on program development and implementation to State and local health departments. NCEH currently has projects to determine the effectiveness of folic acid in preventing spina bifida, to determine the effectiveness of an intervention to prevent poverty-associated mental retardation, and to find and implement effective prevention strategies for fetal alcohol syndrome.

Disabilities Prevention Program. The goal of the program is to reduce the incidence and severity of disabilities. The program expanded to 28 State-based capacity building projects in FY 1992, and continues in FY 1993 at that level. It targets selected developmental disabilities, head and spinal cord injuries, and secondary disabilities. It supports prevention emphasis for selected chronic conditions. In addition, five demonstration/epidemiology projects for the prevention of secondary conditions associated with cerebral palsy, fetal alcohol syndrome, and health and spinal cord injuries were funded in FY 1992. As a result of findings from the Institute of Medicine report, *Disability in America*, and recommendations from the National Conference on Prevention of Primary and Secondary Disabilities, NCEH has started development of a National Plan for the Prevention of Disabilities.

Detection and Measurement of Toxic and Hazardous Substances in Humans. NCEH is assessing exposure and health effects of potential exposure to toxic substances that have widespread use and/or high toxicity. NCEH has developed laboratory methods for measuring dioxins, and related compounds, 32 volatile organic compounds, 12 pesticide metabolites, 12 chlorinated hydrocarbon pesticides, and 25 toxic elements in human blood and urine in the low parts per billion or trillion range. NCEH has developed batteries of laboratory measurements for examining health effects to the kidney and liver resulting from exposure to hazardous substances. New projects include the application of a new laboratory measure of exposure to tobacco products in blood in order to obtain national prevalence estimates of exposure to passive or environmental tobacco smoke; the development of improved laboratory measurements of health effects to the immune system resulting from exposure to hazardous substances; and development of a new instrument for measuring blood lead.

Environmental Public Health Programs. NCEH deals with health problems associated with chemical toxicants such as pesticides, organochlorine compounds, and solvents; heavy metals; other inorganic substances; and radiation exposure and other energy-related issues. NCEH also addresses health problems associated with the physical environment, including natural and technologic disasters and the health effects of air pollution. NCEH is directing a long-term national program designed to eliminate childhood lead poisoning—the leading environmental disease among children in the United States. NCEH plays a leading role in international efforts to prevent the health effects of air pollution and other environmental conditions and works with State and local health agencies to

strengthen environmental disease prevention programs, such as asthma. In addition, NCEH coordinates national analytic epidemiologic research on radiation exposure and other energy-related public health issues.

Emergency Response. NCEH has developed a variety of activities to address health-related issues associated with technological hazards and natural diseases. A 24-hour emergency number (404-488-7100) has been established to support response personnel on the State and local levels. NCEH will assist in planning and is also beginning specialized surveillance activities, improving computer capabilities for collecting and retrieving data, conducting descriptive and analytic epidemiologic studies, and studying environmental exposure pathways.

Special Programs Group. The Vessel Sanitation Program (VSP) continues as a cooperative activity with the cruise ship industry to maintain a level of sanitation on passenger vessels that will lower the risk of gastrointestinal disease outbreaks. A comprehensive sanitation program is monitored through a mandated inspection process, whose operating cost is fully recovered through inspection fees. VSP redesigned its sanitation training seminars for shipboard management personnel. The VSP also conducts onsite construction reviews for new vessels and for renovations of existing vessels, which are designed to help shipbuilders integrate new disease prevention technologies. NCEH continues to assist State and local health officials prepare communities near lethal chemical weapons stockpile locations in improving their medical emergency response capabilities. The skills developed by health care professionals will not only be useful in the unlikely event of a catastrophic release of a chemical agent, but will help the community develop a more generalized ability to prevent casualties during emergencies involving hazardous materials and to better handle those casualties that do occur.

NATIONAL CENTER FOR INJURY PREVENTION AND CONTROL (NCIPC)

On June 25, 1992, the National Center for Injury Prevention and Control (NCIPC) was formed. NCIPC runs a comprehensive national program to control intentional and unintentional injuries, the leading cause of death for persons ages 1–44 and the leading cause of years of potential life lost. The program (1) leads and coordinates national injury control efforts, (2) establishes surveillance for injuries, (3) conducts and supports research, and (4) supports State and local health departments in building capacity for injury surveillance and implementing interventions to control injuries. The national program encompasses the prevention of nonoccupational injuries, and applied research and evaluations in acute care and rehabilitation of injured persons. NCIPC addresses injury prevention and control through research on (1) causes, circumstances, and risk factors and (2) interventions and their impact on defined populations.

NCIPC supports eight multi-disciplinary injury control research centers in academic institutions. NCIPC also sponsors 27 research projects to determine the cause of injuries, identify interventions, or evaluate the effect of an intervention. In addition, over 20 grants to State and local health departments provide capacity and support surveillance and interventions to make and chart progress in controlling injuries. Research and intervention efforts are beginning to make a difference. Researchers at the Harborview Injury Control Center, supported by CDC, have shown that wearing a helmet reduces the risk of head injury by 85 percent in bicycle crashes. The widespread application of these and other interventions should reduce the toll of injuries on our society. NCIPC has the lead responsibility within CDC for tracking and implementing the violent and abusive behavior and unintentional injuries priority areas for HEALTHY PEOPLE 2000.

NCIPC Prevention Highlights

Injury Control—What Works. This was the theme of The Second World Conference on Injury Control held in Atlanta, May 1993. Hosted by CDC and co-sponsored by 10 other national and international organizations involved in injury control, the conference focused on worldwide progress in injury research and the practical approaches to injury prevention and control. The conference program included over 800 presentations with about 1,400 attendees from 60 different countries.

Youth Suicide Prevention Programs: A Resource Guide. The resource guide describes the rationale and effectiveness of various youth suicide prevention strategies and identifies model programs. Building on the outcome of the 1990 Forum on Youth Violence in Minority Communities, *The Prevention of Youth Violence: A Framework for Community Action* is designed to help communities develop potentially successful violence prevention programs based on the best available knowledge. It includes rationales for different approaches to youth violence prevention and examples of current programs.

Extramural Grants. In 1993, NCIPC awarded the first two cooperative agreements to support demonstration projects to prevent youth violence and awarded the first grant for a training and demonstration center in acute care. Grants totaling $13 million were awarded for research in the three phases of injury control: prevention, acute care, and rehabilitation, and the two major disciplines of injury control: epidemiology and biomechanics. Approximately $6 million in grants were provided to State and local health departments and community-based organizations to implement and evaluate interventions to prevent injuries.

Injuries Caused by Firearms. Cooperative agreements with States to conduct population-based surveillance in two priority areas: head injuries (including evaluation of E-codes) and firearm injuries. NCIPC continued an interagency agreement with the Consumer Product Safety Commission to use the National Electronic Injury Surveillance System to obtain national estimates of nonfatal firearm injuries, and associated risk factors, morbidity, cost, and long-term disability.

Fall Injury Prevention. NCIPC supports a research grant to survey aspects of fall injuries among residents of two large senior housing centers, a nursing home, and among patients with hip fracture admitted to a major hospital.

Drowning Prevention. Programs in California, Florida, Texas, and Washington focus on pool barriers and isolation

fencing ordinances to reduce the risk of drowning in swimming pools, particularly among small children. Education, marine safety training, and public awareness campaigns are being conducted in California, Florida, Texas, Washington, Alaska, North Carolina, and Hawaii. In Alaska, approximately 10,000 people have been trained in marine safety and survival, and an evaluation of the program has documented 21 lives saved. In Hawaii, an evaluation of different educational methods showed instructional messages at specific sites were cost [illegible]ctive alternatives to public campaigns.

Traffic-Related Injury Prevention. Collaborative efforts with the National Highway Traffic Safety Administration (NHTSA) have resulted in *MMWR* reports on alcohol-related motor vehicle fatalities, child restraint use, and safety belt use. While NHTSA's Fatal Accident Reporting System (FARS) has been key in studying fatal traffic crashes, no such system exists for nonfatal traffic crashes. NCIPC is working on a link[illegible] system of existing data to develop information on nonfatal [illegible] NCIPC [illegible] NHTSA [illegible] related to risk of vehicular injury for the Behavioral Risk Fac[illegible] Surveillance System (BRFSS).

Head Injury Prevention. Using [illegible] emergency department data, CDC researchers found that bicycling accounted for 2,985 head injury deaths and 905,752 head injuries from 1984 to 1988. An estimated 2,500 deaths and 757,000 head injuries could have been prevented by universal [illegible] laws; rates of deaths from head injury were almost twice those in States with comprehensive use laws.

[illegible] education in Howard County, Maryland, showed an increase of helmet use from 4 percent to 47 percent. Programs in 12 States and New York City promote the use of bicycle helmets through legislation, education of children and parents, public education, sponsored events such as bicycle rodeos, discount coupons for helmets, or giveaways. Programs in California and Rhode Island actively promoted legislation to require helmet use among motorcyclists.

Focusing the grants on a small set of areas will contribute to the development of a comprehensive national program and [illegible] strategies. To support this effort, NCIPC is developing recommendations on intervention strategies. The first recom[illegible] bicycle helmets.

Violence Prevention. Injuries from violence can be self-inflicted or interpersonal, including homicide and assault, spouse abuse, sexual assault, child abuse and neglect, and elder abuse.

Suicide Studies. Risk factors for suicide attempts in persons [illegible] 15–34 [illegible] exposure to another person's suicide or attempt, mobility or migration, and patterns of alcohol use. NCIPC assists the New Mexico Department of Health in [illegible] the effect of suicide prevention curriculum on suicidal ideation or behavior. Another study is investigating the correlation of rates of suicidal ideation and behavior and the behavior of patients with panic disorders. A third study conducted in Shelby County, Tennessee, and King County, Washington, assessed the association between firearms and suicide. Suicide victims were more likely than controls to have lived alone, taken prescribed psychotropic medication, been arrested, abused drugs or alcohol, or not graduated from high school. After controlling for these characteristics, the presence of a gun in the home was associated with an increased risk of suicide.

Homicide Surveillance Summary. Compiled from the analysis of NCHS mortality data and the FBI Uniform Crime Reports data, the study showed a marked increase in the rate of homicide among young black males, an increase almost entirely due to homicides committed with firearms. Programs in California, New York City, Rhode Island, Florida, Maryland, North Carolina, and Kansas City target youth violence through a number of interventions, including conflict resolution education, mass media campaigns, community organization, mediation programs, and crisis intervention.

Child Abuse Surveillance. The information from this study will be used to develop new data collection systems to identify and track sentinel events. In Missouri, NCIPC supports the development of data collection instruments and the training of teams that are required by law to investigate suspicious injury deaths of children through age 15.

NATIONAL CENTER FOR INFECTIOUS DISEASES (NCID)

The mission of the National Center for Infectious Diseases is to prevent unnecessary infectious disease morbidity and mortality through surveillance, applied research, and services. NCID conducts a national program to improve the identification, investigation, diagnosis, prevention, and control of infectious diseases, including the evaluation of candidate vaccines of public health importance. NCID provides, on the basis of unmet national needs, laboratory diagnostic services to State health departments. It also provides for the transfer of new diagnostic technologies to the public and private sectors. NCID has co-lead responsibilities for CDC, with the National Center for Prevention Services, in tracking and implementing the immunization and infectious diseases priority area objectives for HEALTHY PEOPLE 2000.

NCID Prevention Highlights

Acquired Immunodeficiency Syndrome (AIDS). NCID conducts surveillance, epidemiologic, and laboratory-based investigations designed to monitor the epidemic of human immunodeficiency virus (HIV) infection and AIDS and to assess risk factors for transmission. Specific surveillance activities include (1) providing financial support and technical consultation to State and local health departments for standardized reporting of cases of AIDS and of HIV infection in States with this type of reporting; (2) conducting standardized HIV seroprevalence surveys of designated subgroups of the U.S. population, including persons at increased risk and more general populations; (3) investigating unusual case reports of HIV infection and AIDS in accordance with CDC guidelines and recommendations; (4) investigating cases of occupationally transmitted HIV infection; (5) conducting studies to determine the spectrum of disease in HIV-infected men, women,

and children; and (6) designing, implementing, maintaining, and providing computer support of active surveillance programs for HIV infection and AIDS at State and local levels and reporting collected data in surveillance reports.

Epidemiologic activities include studies on behavioral and biologic factors involved in transmission of HIV, studies on the natural history of HIV disease in all populations, and the development of prevention guidelines. Laboratory investigations include developing and evaluating new diagnostic tests for HIV infection, including serologic and viral isolation techniques for HIV-1 and HIV-2; initiating studies to more clearly define HIV biologic structures and functions that may be susceptible to drug intervention or vaccine development; and developing new technology tools for molecular epidemiology, such as those used to determine genetic relatedness between HIV strains. Information from these studies has been essential for projecting future trends in AIDS cases; targeting prevention programs at national, State, and local levels for persons determined to be at increased risk for infection, including health care workers; and estimating the impact of the HIV epidemic in terms of its economic, social, and medical consequences. Based on information obtained through these studies, in 1992 NCID published a revised classification system for HIV infection and expanded surveillance case definition for AIDS and a document describing projections of the number of persons diagnosed with AIDS and the number of immunosuppressed HIV-infected persons in the United States through 1994.

Child Care. In the absence of a comprehensive prevention and control program, the incidence of child care related infections and injuries is expected to increase significantly as more children attend these facilities. CDC's goals are to (1) prevent and control infectious diseases and injuries [acquired in]... child care [settings] by developing strategies that will address major risk factors identified through surveillance and epidemiologic studies; (2) evaluate the impact and cost-effectiveness of selected prevention and control measures through use of demonstration sites; (3) develop prevention and control guidelines for health promotion and education materials targeted to child-care directors and staff, health providers, public health officials, parents, and children; and (4) work with State and local health departments to implement these activities.

Foodborne Disease. Foodborne diseases annually cause at least 6 million illnesses in the United States. To develop prevention and intervention strategies, NCID is working to identify the nature and extent of foodborne disease, the populations at greatest risk, and behaviors that increase risk. NCID is working with State and local health departments to increase their ability to control and prevent foodborne diseases. NCID activities include (1) developing an active surveillance system, (2) developing new laboratory techniques for identifying foodborne pathogens and methods for detecting toxicants, (3) evaluating existing prevention and intervention strategies, (4) designing food- and disease-specific control measures, (5) and developing prevention education materials.

Hepatitis B. Perinatal transmission of hepatitis B virus (HBV) results in a high rate of infection, and 90 percent of infants infected at birth become chronically infected with HBV. As adults, they are at high risk of death from hepatocellular carcinoma. More than 90 percent of these infections can be prevented if HBV-positive mothers are identified and their infants receive hepatitis B vaccine and hepatitis B immunize globulin soon after birth. Interruption of HBV transmission during early childhood is also important because of the high risk of chronic infection during the first 5 years of life. Immunization with hepatitis B vaccine is the most effective means of preventing HBV infection and its consequences. In the United States, the majority of acute cases of hepatitis B occur in adults, but the targeting of high-risk adults for selective immunization has had limited impact on the incidence of disease. The most effective strategy would be immunization before persons engage in high-risk activities or behaviors. In November 1991, the PHS Advisory Committee on Immunization Practices recommended a comprehensive strategy to eliminate transmission of hepatitis B in the United States which includes (1) prenatal testing of pregnant women to prevent perinatal HBV infections, (2) routine vaccination of all infants, (3) vaccination of certain adolescents, and (4) vaccination of adults at high risk of infection.

CDC currently funds perinatal HBV prevention programs in State immunization projects that provide for the estimated 2.1 million women who receive prenatal care in the public sector. In 1992, CDC began phased-implementation of routine infant hepatitis B immunization. Approximately 43 percent of the children served by public sector immunization programs were reached in FY 1993. CDC develops and distributes multimedia training and health education materials targeted at both providers and the public.

Lyme Disease. Lyme disease is a potentially serious and debilitating infection that may lead to subacute and chronic complications affecting the joints, peripheral and central nervous system, heart, skin, and eyes. NCID's goal is to reduce the incidence of Lyme disease by identifying risk factors associated with transmission and developing improved prevention strategies, including education materials. To identify risk factors, NCID is carrying out detailed epidemiologic and ecologic studies in hyperendemic areas of the Northeast. NCID is establishing an international reference center for Lyme disease and developing both a standardized national surveillance system and standardized serologic testing to support the system. NCID is also investigating effective tick control methods and possible vaccine development.

Diarrhea in Infants. Each year in the United States about 350 to 500 children die of preventable complications of diarrheal illnesses including dehydration, electrolyte imbalance, and cardiac arrest. These deaths may represent 10 percent of the preventable, post-neonatal infant mortality in this country. NCID is examining risk factors associated with diarrhea-related infant death by analyzing computer records of multiple causes of death and, based on this information, is planning investigations to provide information for use in developing specific intervention strategies to reduce such deaths.

Hospital Infections. Approximately 2 million nosocomial infections occur in acute-care facilities annually, affecting an estimated 5 percent of all hospitalized patients. Recent analysis of data reported to NCID's National Nosocomial Infections Surveillance System demonstrated a 20-fold increase in bacterial infections that are resistant to one major antibiotic, possibly re-

sistant to all available antibiotics. Measures to prevent antibiotic resistance advocated by NCID for all hospitals include more consistent application of infection-control precautions and stronger recommendations for appropriate use of antibiotics.

Malaria. Approximately 1,000 imported malaria infections are reported each year in the U.S. and several million American travelers are exposed to potentially fatal malaria. During 1985–1992, 44 U.S. citizens died of malaria. NCID activities include (1) the development and dissemination of malaria prevention guidelines for American travelers and consultation with clinicians on the treatment of malaria, (2) collaboration with national ministries of health in the development of improved control and prevention strategies, particularly in Africa, (3) collaboration with AID and WHO in the development and testing of candidate malaria vaccines, and (4) conduct of molecular genetic studies of the malaria mosquito vectors of Africa to develop improved malaria control methods.

Pneumococcal Disease. Pneumococcal infections cause approximately 40,000 deaths annually in the United States and have an even greater impact in developing countries, causing an estimated 1 million deaths annually among children under 5 years old. Pneumococcal infections will become more difficult to manage effectively as strains resistant to multiple antimicrobial agents become more prevalent. NCID is conducting national surveillance for invasive pneumococcal infections. Data from surveillance are being used to assess the efficacy of the currently available pneumococcal vaccine, to make recommendations for the development of a protein-conjugate vaccine, and to monitor the spread of drug-resistant strains in the U.S. Outbreak investigations have provided the opportunity to assess transmission of drug-resistant pneumococci within day care centers in Ohio, Alaska, Kentucky, and Tennessee. To develop strategies for prevention of infections with drug-resistant strains in developing countries, NCID is evaluating the spread of drug-resistant pneumococci in Egypt and Pakistan. A manual has been prepared for use by health programs in developing countries to survey for antimicrobial resistance. NCID is assessing the impact of a statewide campaign to administer pneumococcal vaccine to all high-risk adults in Hawaii. NCID has identified a pneumococcal cell wall protein that appears to be useful as an antigen and that produces a protective immune response in mice. Its potential as a vaccine candidate will be explored.

Influenza. Persons 65 years of age and older are at increased risk of complications from influenza. Data from past epidemics show that a severe influenza epidemic may cause up to 200,000 excess hospitalizations and more than 40,000 excess deaths. Inactivated influenza vaccines and the appropriate use of antiviral medication are the current focus of prevention and control efforts. These efforts are greatly aided by the national influenza surveillance for viruses and influenza-associated morbidity and mortality that is conducted each influenza season by NCID. Vaccine performance may be suboptimal unless vaccine contains the most current virus strains. NCID is working to improve its international influenza surveillance systems to provide an early warning for the emergence and spread of new influenza variants, and thereby, the essential data for determining the optimal composition of influenza vaccine each year.

NATIONAL CENTER FOR PREVENTION SERVICES (NCPS)

The National Center for Prevention Services plans, directs, and coordinates national programs to assist State and local health agencies in carrying out their responsibilities for preventive health services. NCPS provides financial and technical assistance to aid State and local health departments in establishing and maintaining prevention and control programs directed toward such health problems as tuberculosis, sexually transmitted diseases, AIDS, and poor oral health. It also administers a national quarantine program to protect against the introduction of diseases from other countries and conducts research to evaluate and improve the application of current technology to the prevention of disease. NCPS has lead responsibility within CDC for tracking and implementing the Sexually Transmitted Diseases and Oral Health priority areas for HEALTHY PEOPLE 2000.

NCPS Prevention Highlights

Tuberculosis. From 1985 to 1992, the number of reported persons with tuberculosis in the United States increased, reversing the steady decline of the last three decades. Final reported tuberculosis cases totaled 26,673 in 1992, a 1.5-percent increase from the previous year.

Tuberculosis is concentrated in identifiable areas and populations that are amenable to intensified prevention and control efforts. The Strategic Plan for the Elimination of Tuberculosis from the United States proposes more effective use of existing technology, development of new technology, and rapid transfer of technology to the field. In FY 1993, 66 State and local health departments received tuberculosis prevention and control cooperative agreements, which totaled approximately $34.3 million. These funds supported local programs, including the hiring of local outreach workers to provide one-on-one management (directly observed therapy) for tuberculosis patients who would otherwise have to be hospitalized to cure their disease and to prevent these persons from transmitting their disease in the community. The patient management conducted in 1993 resulted in estimated savings of about $100 million in hospitalization costs.

In 1992, the Federal Task Force published the *National Action Plan to Combat Multi-drug Resistant Tuberculosis*. During FY 1993, approximately $39.3 million of emergency funds were awarded to 13 State and local health departments reporting the largest number of persons with tuberculosis. These funds enhance their efforts in preventing and controlling multi-drug-resistant tuberculosis and support the implementation of model tuberculosis programs to demonstrate the effectiveness and feasibility of new intervention strategies.

Sexually Transmitted Diseases (STDs). Each year over 12 million cases of STDs threaten the health of Americans. Apart from AIDS and subsequent death, the most serious complications are pelvic inflammatory disease (PID), infertility, ectopic pregnancy, and cancer associated with human papillomavirus. Pregnant women with untreated STDs risk fetal and infant death, delivery of a premature or low-birth-weight infant, or a newborn with birth defects, infant pneumonia, conjunctivitis, or a mental retardation.

More than 750,000 cases of PID are diagnosed and treated each year, resulting in more than 165,000 hospitalizations for women aged 15–44. PID is secondary to either chlamydia or gonococcal infection, and accounts for more than 125,000 cases of tubal infertility and more than 60,000 cases of potentially fatal ectopic pregnancy.

A new program, the Sexually Transmitted Diseases Accelerated Prevention Campaigns, was developed in 1992 and 1993. It will closely examine effective STD prevention programs, and develop innovative approaches that link programmatic, clinical, laboratory, epidemiological, and behavioral activities, both within and outside STD clinic-based programs.

The Region X collaborative chlamydia testing program in family planning and STD clinics, funded through an interagency agreement with the Office of Population Affairs, succeeded in reducing chlamydia prevalence in 165 family planning clinics in Washington, Idaho, Oregon, and Alaska by over 50 percent from 1988 to 1992. In 1993, this program was expanded to three additional PHS regions (III, VII, and VIII), and eventually will be implemented nationwide. Approximately 4.8 million women and 459,000 men were tested for chlamydial infection in the United States last year, with overall positive rates of 7.7 percent for women and 12.9 percent for men.

In 1992, disease intervention activities resulted in the prevention of an estimated 13,500 syphilis infections, 61,600 gonorrhea infections, and 83,100 chlamydial infections. The estimated cost savings to the United States for these prevention activities ranged from approximately $210 million to $600 million.

Human Immunodeficiency Virus (HIV). As of June 1993, CDC had received reports of more than 305,000 AIDS cases and more than 200,000 deaths. An estimated 1 to 1.5 million Americans are infected with HIV. In the absence of a curative therapy or preventive vaccine, the goal of CDC's AIDS control strategy is to reduce HIV transmission by influencing the behavior of people who are either HIV-infected or at high risk for infection. Delivery of health education/risk reduction messages and HIV counseling and testing help infected individuals adopt behaviors that prevent them from spreading the virus and reduce adverse psychological reactions, and help uninfected individuals remain virus free. Spouses and sexual partners of HIV-seropositive individuals are also provided assistance to keep them free of infection; and HIV-infected people are now offered early medical interventions. Counseling and testing sites provided almost 2.7 million HIV antibody tests, of which more than 55,000 were antibody-positive in 1992. Additional efforts are designed to reach the general public with timely and accurate information that allays unjustified fears, facilitates rational behavior toward all aspects of the HIV epidemic, and promotes constructive support for the control efforts of public health officials. NCPS implements this strategy through cooperative agreements with State and local governments, national and regional organizations, and community-based organizations.

Oral Health. NCPS continues to be a national focus for the control and prevention of oral diseases and conditions such as dental caries, oral cancer, and infectious diseases in the dental setting. NCPS provides consultation, training, and technical services to assist State and local governments and professional, educational, civic, and service organizations in planning, implementing, monitoring, and evaluating oral disease prevention and control programs. In addition, NCPS collaborates on projects to improve patient management and care within the dental care environment, including education of dental health care workers about infection control and tuberculosis control practices; assisting with development of infection control and tuberculosis control guidelines for use by dental schools; assisting States in investigating instances in which HIV-infected dental providers have continued to practice; and assessing the frequency, nature, and circumstances of percutaneous injuries among dentists.

Refugee Health. Most of the approximately 130,000 refugees who enter the United States annually come from areas of high disease incidence. Refugee health assessment grant programs in 44 States and the District of Columbia report that approximately 80 percent of refugees receive a general health assessment soon after arriving in the United States to detect health problems of public and personal health significance. CDC's continuing development of prevention programs in refugee health ultimately will contribute to a worldwide, standardized refugee screening, documentation, and notification system.

NATIONAL CENTER FOR HEALTH STATISTICS (NCHS)

The National Center for Health Statistics is the principal Federal source of data used in planning health services and other programs that meet the health needs of the Nation. NCHS collects and analyzes data that address the full spectrum of concerns in the health field, including overall health status, lifestyle, and exposure to unhealthful influences; the onset and diagnosis of illness and disability; and the use of health care and rehabilitation services. Data are released through NCHS publications, public-use data tapes, and journal articles. CDC has delegated lead responsibility for most of the objectives in the Surveillance and Data Systems priority area to NCHS. One of NCHS's major tasks include monitoring progress toward the national objectives; NCHS's data bases provide tracking information for about 40 percent of HEALTHY PEOPLE 2000 objectives and over 90 percent of the special population targets.

NCHS Prevention Highlights

National Health Interview Survey (NHIS). The annual National Health Interview Survey is a major source of data for tracking progress on selected 1990 and year 2000 health objectives. The topics addressed by the 1985, 1990, and 1991 NHIS were high blood pressure control, pregnancy and infant health, occupational safety and health, injury control, dental health, smoking and health, misuse of alcohol, nutrition, physical fitness and exercise, and control of stress. The 1991 NHIS also included immunization and infectious diseases, heart disease and stroke, other chronic and disabling conditions, clinical and preventive services, and mental health. Data on HIV knowledge and attitudes have been collected annually since August 1987. The 1992 NHIS included a Youth Risk Behavior Survey and repeated the comprehensive set of questions on cancer risk factors first asked on the 1987 NHIS. A short health promotion questionnaire will be included annually through the year 2000.

National Vital Statistics System (NVSS). The National Vital Statistics System is responsible for the Nation's official vital statistics. The vital statistics are produced through State-operated registration systems. Information provided includes extensive data on births and deaths. The Linked Birth and Infant Death Data Set provides valuable information on infant mortality. The mortality data have recently been expanded to provide more information on the Hispanic population.

1988 National Maternal and Infant Health Survey (NMIHS). This periodic survey collects information from three national samples of vital records: 10,000 certificates of live birth; 4,000 reports of fetal death; and 6,000 death certificates for infants. About 60,000 mothers, hospitals where births and infant deaths occurred, and medical providers of prenatal care were the target of mailed follow-back questionnaires and interviews linked with sampled vital records. The data will facilitate research in the areas of low birth weight and infant and fetal death. In 1990, a longitudinal follow-up survey of mothers from the 1988 NMIHS was conducted. The next NMIHS will be in 1994.

National Health and Nutrition Examination Survey (NHANES). The 1988 to 1994 NHANES III, a nationally representative sample of persons, will provide detailed health history information through interviews and physical examinations targeted to specific diseases of current interest. The targeted diseases in NHANES III include cardiovascular disease, chronic obstructive pulmonary disease, diabetes, gallbladder disease, kidney disease, arthritis, cancer, infectious diseases, allergies, depression, hearing loss, osteoporosis, dental caries, and periodontal disease. Nutritional status is assessed through dietary interviews, biochemical and hematological tests, and body measurements. Release of data from the first wave of NHANES III (1988-1991) began in the fall of 1993.

NHANES I Epidemiologic Follow-up Study (NHEFS). This study is a nationwide follow-up of 14,407 persons who were 25-74 years old when first examined in NHANES I (1971-75). Periodic follow-ups (1982-84, 1986, 1987, 1992) of this cohort provide morbidity, mortality, and hospital and nursing home data. This study was jointly initiated by the National Institute on Aging and NCHS; other components of NIH and PHS subsequently joined in the planning and funding.

National Survey of Family Growth (NSFG). This multipurpose survey of women of childbearing age provides baseline and evaluation data for a variety of health promotion programs concerned with reproductive health, family planning, maternal and child health, STDs, and HIV. Interviewing for the fourth cycle was conducted in 1988. Analysis and publication of data from the 1988 NSFG (Cycle 4) and the subsequent re-interview of these women in 1990 continued in 1991 and 1992. The 1994 NSFG will have a larger sample to provide better estimates for minority women.

National Ambulatory Medical Care Survey (NAMCS). This survey is designed to provide national estimates of the volume and characteristics of office-based medical care. Hospital outpatient and emergency room visits were added in 1992. Variables measured include patient demographics and complaints, physicians' diagnoses, and the ordering and provision of diagnostic services, therapeutic services, consultation services, and medications. The survey was conducted annually from 1974 through 1981, in 1985, and annually since 1989.

National Hospital Discharge Survey (NHDS). This annual survey is the source of information on inpatient use of hospitals. NHDS includes data on expected source of payment, length of stay, diagnosis, surgical procedures, and patterns of use and care in hospitals.

Other NCHS Prevention Activities. NCHS coordinated the development of a set of health status indicators for Federal, State, and local government use. These indicators were released in 1991. DATA 2000, a computerized inventory of data sources for monitoring the national objectives, was released in 1993. Research on the development of survey instruments to collect data related to the measurement of years of healthy life continues, both within NCHS and with other researchers. In subsequent years, NCHS will develop comparable data collection methodologies for use at national, State, and local levels, and a national process will be developed to identify significant data gaps that limit our ability to measure progress toward the HEALTHY PEOPLE 2000 objectives. In addition, NCHS will continue to work with State and local agencies to improve their ability to generate information needed to assess progress toward the objectives at State and local levels.

NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH (NIOSH)

The National Institute for Occupational Safety and Health's mission is to assure safe and healthful working conditions by providing the science needed to prevent occupational diseases and injuries. NIOSH conducts intramural research and supports extramural research on occupational diseases and injuries; carries out, in response to requests, an average of 500 investigations in workplaces each year, evaluating all types of health problems and hazards; and makes recommendations to the Department of Labor on emerging problems. NIOSH supports Educational Resource Centers in Occupational Safety and Health at 14 universities where professionals are trained in four core professional disciplines of the field—industrial hygiene, occupational medicine, occupational nursing, and safety—as well as individual training projects at about 30 other universities and colleges. NIOSH is the lead agency responsible for reporting on the achievement of the HEALTHY PEOPLE 2000 occupational safety and health priority area objectives.

NIOSH Prevention Highlights

Surveillance. Surveillance systems are used for the early detection and continuous assessment of the type and frequency of occupational disease, disability, and death; determining potential exposures to hazardous agents; and evaluating the effectiveness of intervention efforts. NIOSH is improving exist-

ing surveillance systems and developing new approaches to identify trends in occupational diseases and injuries; the agriculture and construction industries currently receive special emphasis. The Sentinel Event Notification System for Occupational Risks (SENSOR) is a network of designated health care providers operating through cooperative agreements between NIOSH and participating State health departments. The NIOSH Fatality Assessment and Control Evaluation (FACE) project involves the investigation of selected types of work-related traumatic deaths.

Since FY 1992, the NIOSH Alaska Activity has focused on the descriptive epidemiology of Alaskan industries, with a special emphasis on commercial fishing, which is the highest risk industry in the State. Project findings have provided justification for the development of a field station in Alaska to conduct research aimed at reducing work-related injuries and have been published in *Public Health Reports*.

Research. Research continued to focus on specific recommendations from the *National Strategies for the Prevention of Leading Work-Related Diseases and Injuries*. The 10 leading diseases and injuries include occupational lung diseases, musculoskeletal injuries, occupational cancers, severe occupational traumatic injuries, occupational cardiovascular diseases, disorders of reproduction, neurotoxic disorders, noise-induced hearing loss, dermatological conditions, and psychological disorders. Since the original documentation, an 11th priority category, occupationally acquired infectious diseases, has been identified.

On October 30, 1992, a groundbreaking ceremony for a new multimillion dollar state-of-the-art CDC/NIOSH research facility took place in Morgantown, West Virginia. The new advanced-technology laboratory will house new and innovative research programs in occupational safety and health.

Silicosis continues to plague American workers, with 634 new cases of silicosis diagnosed between 1985 and 1990 in Michigan, New Jersey, Ohio, and Wisconsin alone. Silicosis may be prevented by identifying potentially exposed workers, high-risk occupations and worksites, and use of products containing silica, then making recommendations for intervention. To meet these needs, NIOSH is increasing efforts in promoting and performing health screening and surveillance as well as hazard surveillance. NIOSH is also working with the Occupational Safety and Health Administration (OSHA) and the Mine Safety and Health Administration (MSHA) to emphasize the importance of enforcing current standards and to develop new prevention and intervention strategies. Research to study dose-response relationships, especially the risk of low-exposure concentrations, continues. NIOSH is currently formulating a Silicosis Eradication Strategy that will focus on communication and education regarding silica exposure, screening and surveillance, and scientific research.

NIOSH has accelerated research and training programs addressing workplace stress. NIOSH stress research employs laboratory and field studies, including health hazard evaluations, to investigate improved methods for assessment of job stress, risk factors for job stress, health and performance effects of job stress, and work redesign to prevent job stress. In November 1992, NIOSH and the American Psychological Association (APA) convened the Scientific Conference on Job Stress, involving participants from 22 countries, to address "Stress in the 1990s: A Changing Work Force in a Changing Workplace." In FY 1993, NIOSH began working with the APA on a cooperative agreement to develop a post-doctoral training program in Occupational Health Psychology. Behavioral scientists will be trained in both psychology and occupational health to provide the human resources needed by industry and labor to combat stress in the workplace.

In FY 1992, a joint CDC/ATSDR workshop, with representation from academia, Department of Energy (DOE) National Laboratories, unions, and community groups, identified energy-related health research needs at DOE facilities. As a result, a broad research agenda consisting of 19 projects was prepared. The ongoing program emphasizes studies at combined DOE sites and exposures other than ionizing radiation. Additionally, NIOSH and the National Center for Environmental Health (NCEH), CDC, awarded cooperative agreements to conduct an epidemiologic study to examine the association between paternal ionizing radiation exposure and childhood leukemia in the workers' offspring as a follow-up to a British study. NIOSH is also studying mortality patterns among uranium enrichment workers at two DOE facilities. Onsite NIOSH observations were made at various locations, such as the Idaho National Engineering Laboratory, to learn about the operations and potential exposures to workers. NIOSH staff also reviewed the status and accomplishments of the continuing epidemiologic research program at several laboratories.

NIOSH revised the second notice of proposed rulemaking to improve the testing and certification of industrial respirators. The proposed regulatory action will replace the existing certification tests and criteria now governed by 30 CFR Part 11 with more effective and reliable performance testing under the new 42 CFR Part 84. The most significant changes to the first proposal include deletion of workplace testing requirements, changes to the assigned protection factors, and additional guidance in quality assurance requirements and on user information.

Dissemination. NIOSH operates a toll-free number that provides information about the availability of health hazard evaluations (HHE) of workplaces. Under the Health Hazard Evaluation and Technical Assistance (HETA) Program, HHE requests related to the quality of the indoor environment have increased and comprised nearly 40 percent of all HHE requests in 1992. Epidemiological studies have shown some evidence supporting a relationship between nonspecific symptoms and six workplace factors (air-conditioning systems, presence of carpets, more workers in a space, ineffective cleaning of office space, use of photocopiers, and use of carbonless paper). In addition, work organizational or psychosocial factors, gender, smoking, and history of allergies may also be important factors. NIOSH has worked closely with EPA to distribute a self-help guide to building owners and occupants. This guide makes specific recommendations on how to determine the likely causes of symptoms and offers an approach to reduce the prevalence of these types of symptoms by improvements in ventilation systems and other actions. NIOSH is developing improved measurement techniques for both characterizing etiologic exposures and specific illness syndromes which will include new sampling and analysis techniques for microbiologic toxins, ventilation systems, and specific chemical exposures. Improved measures for the work-organization stressors and objective measures of poten-

tial health effects (i.e., clinical measures of eye irritation or immune system activation) will be incorporated in future epidemiologic studies.

Training. The Occupational Safety and Health Act requires that NIOSH maintain and improve the competence of the occupational safety and health professional and paraprofessional work force. To meet this objective, NIOSH funds 14 Educational Resource Centers which provide training for professionals in occupational medicine, agricultural health and safety, occupational nursing, industrial hygiene, and safety for emergency response workers. NIOSH also funds 34 project training grants which develop occupational safety and health professionals in underserved geographic areas, predominantly black colleges, single discipline programs, physician assistants in occupational medicine, and other targeted groups. NIOSH [illegible] areas [illegible] schools of medicine); management development (academic and cooperative training in the schools of business); health professions training in the schools of engineering; and rehabilitation [illegible] Laboratory. The following training activities are being conducted [illegible] sociation of Fire Fighters to provide occupational safety and [illegible] initiative in collaboration with the Educational Resource Centers to enhance industrial hygiene academic programs in the areas of hazardous substances/hazardous waste management; (3) the Accreditation Board for Engineering and Technology study, with NIOSH support, to update their data base regarding the occupational safety and health content of engineering academic programs in the United States; (4) a new cooperative agreement with the Minerva Education Institute at Xavier University to create a nationwide faculty network to develop [illegible] occupational safety and health professionals through NIOSH courses; and (6) Educating Physicians in Occupational Health [illegible] EPOCH II NVI [illegible] national oversight/advisory committee representing preventive medicine, internal medicine, and family medicine was established to provide guidance to Project EPOCH.

Agriculture. For over a decade, NIOSH has been conducting research [illegible] among agricultural workers. Since 1990, NIOSH has been developing a comprehensive national program for the prevention of diseases and injuries among agricultural workers and their families. One component of this program is a concerted effort to improve coordination between the many Federal, State, voluntary, and private organizations concerned with agricultural safety and health. To carry out this effort, NIOSH (1) conducted an outreach program that targeted seven Future Farmers of America (FFA) chapters who were recognized for their excellence in community safety programs; expansion of "Farm Safety 4-Just Kids"; and the NIOSH-funded Demonstration Cancer Control Projects that conducted community education about cancer risks from pesticides and sun exposure, and promoted early detection through the mass media, county fair display booths, and the 4-H and FFA; (2) conducted surveillance of agriculture-related disease and injury through the Occupational Health Nurses in Agricultural Communities Program in 50 rural communities in 10 States; (3) conducted the Agricultural Health Promotion System cooperative agreement program in 18 States which serves the agricultural worker by providing information dissemination, education, and referral services through the cooperative extension service network; (4) designed an agricultural surveillance training course to train on-site agricultural health and safety surveyors; (5) conducted a study to monitor real-time noise exposures because of the significant hearing loss experienced by agricultural workers; (6) established two new Centers for Occupational Health in Agriculture. There are now 6 Centers in the United States; (7) investigated scalping incidents in New York State and reported on the results of these investigations in the *MMWR*; (8) developed a sampling and analysis method for the simultaneous determination of 19 organophosphorus pesticides; and (9) assisted the American Society of Agricultural Engineers in developing curriculum to be used in courses in engineering design and in agricultural safety and health.

Construction. NIOSH is continuing to expand surveillance, research, and intervention activities to focus on the safety and health of American construction workers. Construction trade workers have experienced excess rates of cancer, asbestos-related diseases, mental disorders, solvent-related disorders, falls, poisonings, industrial fatalities, and homicides. They are also at risk for occupational lung diseases, musculoskeletal disorders, hearing loss, and dermatological conditions from workplace exposure. NIOSH efforts related to construction safety and health include the following: (1) NIOSH provided OSHA with a critical review of studies conducted on adverse effects of lead on fetal development and the adult cardiovascular system. NIOSH continued to investigate the effectiveness of current engineering control techniques used in reducing lead exposure among workers who remove lead-based paints, evaluated occupational exposures resulting from several lead removal techniques being pilot tested in housing units, and provided recommendations for use by the Department of Housing and Urban Development in developing final regulations for lead abatement contractors; (2) two NIOSH alerts [illegible] for preventing falls: *Preventing Worker Injuries and Deaths Caused by Falls from Suspension Scaffolds* and *Preventing [illegible] During Tree Trimming*; (3) the NIOSH State Model Construction Safety and Health Program trained thousands of construction workers; (4) studies of mortality patterns were conducted on data supplied by unions representing carpenters, electrical workers, sheet metal workers, and bricklayers. Results of these studies will be used to identify and prevent construction-related disease and injury; and (5) a NIOSH-funded study related to hazards in new construction and demolition has identified problems that are common, such as exposure to welding fumes, asbestos, asphalt fumes, noise, and musculoskeletal hazards resulting from overhead work and vibration.

Occupational Transmission of Tuberculosis. The recent increase in tuberculosis (TB) cases is believed to be largely due to TB occurring in persons with HIV infection. Other groups at high risk for TB include workers in correctional facilities, shelters for the homeless, residential care facilities, nursing

homes, and hospitals, where the environment may be conducive to the airborne transmission of TB. In FY 1993, the NIOSH TB program conducted health hazard evaluations; epidemiologic evaluations of intervention programs that reduce TB transmission; studied transmission of TB in workers in hospitals and correctional facilities; initiated development of a surveillance program for worker TB infection and disease; conducted research on engineering controls (ventilation and UV germicidal irradiation), respirators, and air sampling and analysis methods; developed educational materials for health care providers about TB infection control practices; and assisted the Department of Labor in producing a Joint Advisory Notice on occupational TB transmission.

HIV and HBV. OSHA Regulation 29 CFR Part 1910.1030, entitled "Occupational Exposure to Bloodborne Pathogens," identifies the risks of hepatitis B to workers and requires employers to pay for vaccinations. Other components to this strategy include surveillance to monitor disease incidence, both to establish the need for targeted programs and to assess program effectiveness, education programs for workers and employers, and technical assistance in preventive program management to employers, workers, and public health practitioners. Two primary considerations in this strategy are determination of who is "at risk" and ensuring employer compliance. As a direct result of the publication of the *Guidelines for Prevention of Transmission of Human Immunodeficiency Virus and Hepatitis B Virus to Health Care and Public Safety Workers* and the companion document, *A Curriculum Guide for Public Safety and Emergency Response Workers*, NIOSH awarded a cooperative agreement to the United States Fire Administration to develop a course for the 2 million emergency response personnel who protect the public from the perils of fire, accidental injury, and sudden illness.

Minority Health Programs. During FY 1992, NIOSH (1) provided training and educational grants to Meharry Medical College to support their Occupational Medicine Residency Program; St. Augustine's College to support their undergraduate Occupational Safety and Health Training Program; and the University of Puerto Rico to support their Occupational Health Training Program; (2) collaborated with the Minority Health Professions Foundation to support the need for minority occupational health and safety research. Cooperative agreements were awarded to the Morehouse School of Medicine and the Charles R. Drew University of Medicine and Science; (3) conducted a variety of occupational safety and health programs through cooperative agreements with Agricultural Research Centers; (4) through the Center for Agricultural Research, Education and Disease at the University of California, Davis, targeted migrant and seasonal workers, particularly Hispanics. Outreach to Hispanic communities was conducted through radio stations and education of labor contractors; and (5) conducted research on breast cancer control among female migrant farm laborers, Hispanics exposed to antimony, Hispanic contract workers at Los Alamos National Laboratory, and lung cancer among Navajo uranium miners. NIOSH has placed a high priority on improving surveillance for work-related injuries and fatalities involving Alaska Natives, and is developing intervention strategies tailored to the unique environmental and cultural conditions found in Alaska.

Women's Health. According to the Bureau of Labor Statistics in 1991, women will comprise 47 percent of the work force by the year 2005. The 1988 National Health Interview Survey Occupational Health Supplement indicated that certain occupational injuries and illnesses may affect women differently from men. The scientific literature reports that women are also at higher risk for upper extremity musculoskeletal disorders. The National Traumatic Occupational Fatality data base showed that although males had higher fatality rates for all types of traumatic occupational injury, the proportion of injury deaths by homicide and suicide were higher for females. In FY 1992, NIOSH research on occupational illnesses and injuries among female workers addressed occupational respiratory disease, occupational cancers, musculoskeletal disorders, traumatic injury and violence in the workplace, reproductive disorders, occupational cardiovascular diseases, job stress and psychological disorders, dermatological disorders, work-related transmission of infectious diseases, agricultural safety and health, and other targeted research. NIOSH is also conducting a follow-up study to determine whether an association exists between video display terminal use and low birth weight or premature birth. In agricultural safety and health research, NIOSH recently conducted 43 programs in 25 States where research, surveillance, and intervention activities were targeted to female farmers and migrant workers.

EPIDEMIOLOGY PROGRAM OFFICE (EPO)

The Epidemiology Program Office serves as CDC's focal point for developing and applying innovative methods to epidemiologic training, services, and communication. EPO also provides epidemiologic assistance through the assignment of staff for epidemiologic investigations; analysis of the influence of various factors on the incidence and severity of preventable health problems; and consultation to other CDC units, other Federal agencies, State and local health departments, international organizations, and other nations on public health surveillance and analytic methods.

EPO manages the Epidemic Intelligence Service (EIS) program by recruiting, training, and assigning epidemiologists throughout CDC, in State and local health offices, and in international public health duty stations. EPO manages epidemiologic training programs in foreign countries, coordinates epidemiological training abroad, and serves as a WHO Collaborating Center for Epidemiology Training. EPO plans, develops, edits, and produces the *Morbidity and Mortality Weekly Report* and related publications. EPO serves as the hub for a national system for collecting, analyzing, and communicating basic surveillance information, and a focal point for consultation in surveillance and analytic methods in public health.

EPO Prevention Highlights

Prevention Effectiveness. The EPO Prevention Effectiveness Activity coordinates the development of the conceptual framework for prevention effectiveness, coordinates the development of guidelines for assessing the effectiveness of prevention strategies, trains public health professionals in methods for assessing the effectiveness and economic impact of prevention strategies, and provides technical assistance throughout CDC for prevention-effectiveness studies. Prevention effec-

tiveness includes the identification of efficacious strategies to reduce morbidity and mortality and improve the quality of life; the determination of the potential and practical impact of those strategies (effectiveness), including their social, legal, ethical, and economic impacts; the determination of optimal methods for implementing those strategies; and the evaluation of the impact of prevention programs. EPO's 1993–94 program initiative focused on the difficult assessment problems that arise as a consequence of fiscal, ethical, or other constraints, and provided the methods for conducting assessments, the skills to conduct effectiveness studies and use the results, and mechanisms for communicating the results. More specifically, EPO provided CDC staff and State and local public health workers training in prevention effectiveness strategies, published and disseminated the framework for assessing the effectiveness of disease and injury prevention, and developed public health case studies on the practice and application of prevention effectiveness methods.

Preventive Medicine Residency. CDC's [illegible] cine residency is a 2-year accredited program, fulfilling the el[illegible] Medicine. [illegible] cians and veterinarians for careers in general preventive medicine and public health, with a special emphasis on epidemiol[illegible] contributes to the professional development of physicians planning to enter careers in academic medicine, epidemiologic research, public health administration, community health, [illegible]

Public Health Surveillance. [illegible] 6 Territories electronically transmit weekly surveillance data [illegible] CDC [illegible] Telecommunications System for Surveillance (NETSS). NETSS supports the rapid collection and timely communica[illegible] characteristics, enabling the CDC to perform analyses and to recommend appropriate prevention efforts at the local, State, and national level. Innovative analytical methods are being de[illegible] veillance data. New and improved computer software and epidemiologic workstations are under development that will [illegible] gists to collect, analyze, and communicate surveillance data in [illegible]

INTERNATIONAL HEALTH PROGRAM OFFICE (IHPO)

The International Health Program Office conducts programs to improve the disease prevention and control capacities of other nations. Programs focus on decreasing morbidity and mortality among infants and children, preventing the spread of HIV infection, improving conditions for refugees and persons displaced by national and manmade disasters, and strengthening the public health capacities of overseas institutions to provide services to their own nations. Partnerships formed with other international agencies such as the U.S. Agency for International Development (USAID), the World Health Organization, the United Nations International Children's Fund, the United Nations High Commissioner for Refugees, and others facilitate the delivery of shared technical assistance in the assessment of health priorities, planning and delivery of programs, training of staff, evaluation and follow-up, and applied research.

IHPO Prevention Highlights

Child Survival Program. The IHPO Child Survival Program works in partnership with USAID to prevent disease and [illegible] among children under age 5. IHPO staff are assigned to either the Ministry of Health or USAID Missions in 18 developing countries. Program efforts strengthen immunization activities, improve malaria and diarrhea case management practices, provide training to program managers at the local level, improve health education activities, improve health information systems, and conduct operational research to improve program delivery in all related areas of child survival. Other IHPO staff are assigned to programs directed toward the prevention of HIV infection.

Refugee Health and Emergency Response. IHPO coordinates the CDC response to requests for assistance from national and international agencies in natural and manmade crises and chemical and environmental emergencies occurring outside the United States. IHPO staff, concerned primarily with the health of refugees, conduct health assessments of populations displaced for long or short periods of time, assist in setting up disease surveillance systems in temporary camps occupied by refugees, and provide appropriate recommendations to relief agencies to identify priority needs for the use of scarce resources. IHPO coordinates CDC's efforts to identify staff with the best scientific, technical, and management expertise to assist with problems ranging from epidemic disease control and chemical spills to floods, earthquakes, and volcanic eruptions. IPHO directs a CDC-wide initiative which is developing the technical skills and providing increased experience to personnel within CDC interested in working in international assistance. This initiative will, in time, increase CDC's capacity to not only respond to emergencies but also help other countries prepare for them.

HIV/AIDS and STD Prevention and Control. IHPO coordinates CDC technical assistance for HIV/AIDS and STD prevention and control in a number of developing countries generally with support from USAID. Other support for work in HIV/AIDS prevention has been provided by the World Bank. CDC advisors currently are based in Bolivia, the Central African Republic, Uganda, and the Republic of South Africa.

PUBLIC HEALTH PRACTICE PROGRAM OFFICE (PHPPO)

The Public Health Practice Program Office supports programs to build the public health system's ability to address increasingly complex health problems that require comprehen-

sive approaches and increased capacity at the State and local levels. This goal is accomplished through (1) expanding the knowledge, skills, and abilities, including leadership skills, of the public health work force, (2) empowering communities and improving the organizational effectiveness of local and State health agencies, (3) conducting research in public health practice, and (4) enhancing CDC's ability to communicate health information.

In support of these activities, PHPPO collaborates with other CDC programs, State and local health agencies, academic institutions, the private sector, professional and voluntary organizations, and national and international health agencies. PHPPO cooperates with these groups in conducting needs assessments, data acquisition and analysis, program development and demonstration, technical assistance, training, consultation, and evaluation. Recognizing the important role that technology plays in efforts to communicate effectively with large numbers of people, PHPPO uses many forms of modern technology to develop and communicate important CDC messages and to provide instructional and informational products to improve the performance of public health personnel.

PHPPO Prevention Highlights

Building an Effective Public Health Work Force. The Public Health Leadership Institute was initiated to enhance the leadership skills of city, county, and State health officials. During its first 2 years, 105 senior health officials participated in the activities of the Institute. The faculty included subject matter experts from the private sector, legislative representatives, faculty from academic institutions, members of professional and voluntary associations, and representatives of Federal, State, and local health agencies. The long-term objectives of the institute are to:

- Enhance and develop the leadership skills and abilities of participants in areas that are vital to the operation of their health agency;
- Provide an annual forum for discussions and critical analysis of current public health issues;
- Develop a network of public health leaders who can provide ongoing support to improving the public health infrastructure following the Institute;
- Strengthen the relationship between public health practice and academia by providing a model for such interaction.

Steps have also been taken to develop a CDC Public Health Training Network, which was initiated with presentation of the course "Epidemiology by Satellite." This Network will provide leadership and direction in training public health practitioners using distance-based delivery systems such as videoconferencing, self-instructional materials, and computers. Rather than public health workers traveling to obtain training, training would come to the public health worker—in an office, agency, local college or university, or regional site.

In support of CDC's mission to build public health, PHPPO has collaborated with other components of CDC to develop a wide variety of training materials. Through a cooperative agreement with the Association of State and Territorial Public Health Laboratory Directors, PHPPO has collaborated in the development of the National Laboratory Training Network (NLTN). NLTN offers regionally based laboratory training in seven geographic areas that cover the United States.

Increasing the Effectiveness of Public Health Organizations. Under a cooperative agreement with the National Association of County Health Officials (NACHO), PHPPO has published the *Assessment Protocol for Excellence in Public Health (APEX/PH). APEX/PH* is a workbook that guides local health department officials in assessing and improving the organizational capacity of the department and in working with the local community to assess and improve the health status of its citizens. The American Public Health Association, the Association of Schools of Public Health, the Association of State and Territorial Health Officials, and the U.S. Conference of Local Health Officers participated in the development of the workbook, which has been distributed by NACHO to State and local health departments. Staff from NACHO and PHPPO are collaborating with selected State and local health departments to develop strategies for effective implementation of both *APEX/PH* and the model standards.

Communicating Information. PHPPO, the Information Resources Management Office, and the Epidemiology Program Office are working in partnership with State and local public health departments and academic centers to develop the CDC Information Network for Public Health Officials (INPHO), an electronic network to link State and local health departments with CDC. Available information will include: a community health surveillance system that describes the health status of the community and State; reports of epidemic investigations; guidelines on the delivery of preventive health services; training resources; and emergency reports. The system will also have electronic mail capability by which public health officials can communicate with each other.

Addressing Critical Issues in Health Laboratory Quality. CDC recognizes the importance of laboratory testing in identifying and managing chronic and infectious diseases. To improve the quality of laboratory practice in support of public health programs, PHPPO is conducting and participating in research to identify the critical determinants of laboratory testing quality. Questions being examined by the research include: (1) the relationships between specific laboratory practices and standards and the accuracy and reliability of test results, (2) the extent and nature of laboratory errors, and (3) the impact of laboratory errors on patient care.

Building Academic Programs and Relationships. Relationships with the academic community have been strengthened through (1) a cooperative agreement with the Association of Schools of Public Health, (2) a cooperative agreement with the Association of Teachers of Preventive Medicine, and (3) the assignment of experienced public health practitioners to schools of public health. These mechanisms are managed by PHPPO for the use of all the operating components of CDC and ATSDR. They permit CDC/ATSDR to collaborate with researchers and practitioners at health and medical institutions on research, training, curriculum design, development and change, and modification of prevention and public health practices.

Acquired Immunodeficiency Syndrome (AIDS). The focus of PHPPO's AIDS activities is improvement of laboratory testing associated with HIV infection. In addition to the tests used for detecting HIV infection, the most recent improvement efforts include tests to evaluate the immune status of infected persons and to provide information for therapy and early intervention. Consequently, T-lymphocyte immunophenotyping, especially CD4+ cell determinants, are now included in PHPPO's activities. These activities consist of developing guidelines and presenting laboratory training courses that teach testing procedures to public health and private sector laboratory workers and assessing the quality of HIV testing through a voluntary performance evaluation program. To meet the increasing demands for training, PHPPO has developed self-instructional training packages and new courses. Courses are delivered at CDC headquarters and through the National Laboratory Training Network.

PHPPO's HIV performance evaluation program serves as a model for evaluating new technologies and for assuring that the quality of testing meets the needs of public health and patient care. About 1,000 laboratories that perform HIV-1 antibody testing, 320 that perform HTLV-I/II antibody testing, and 55 that perform CD4+ cell testing participate in this voluntary program.

Food and Drug Administration (FDA)

The Food and Drug Administration is the regulatory agency responsible for assuring that foods are safe and wholesome; drugs, biological products, and medical devices are safe and effective; cosmetics are safe; and the use of radiological equipment does not result in unnecessary exposure to radiation. FDA approves new drugs, food additives and certain medical devices before they can be marketed and conducts inspections of related manufacturing and processing plants. It issues public warnings when hazardous products are identified, and it is empowered to remove unsafe products from the market. FDA is authorized to initiate legal action against commercial products containing misleading labeling. FDA's program activities are distributed among individual Centers for Drug Evaluation and Research, Biologic Evaluation and Research, Devices and Radiological Health, Food Safety and Applied Nutrition, Veterinary Medicine, and the National Center for Toxicological Research.

FDA is responsible for providing regulatory oversight for over 90,000 domestic establishments and 500,000 domestically marketed products. It is also responsible for regulating the safety and quality of approximately 1.5 million import entries each year. These responsibilities are carried out in an environment characterized by increasingly complex products and international trade arrangements. FDA inspects both firms and products in the domestic and international arenas whose violations of safety standards are most likely to expose the public to unnecessary risk. FDA is the lead agency for coordinating activities in the HEALTHY PEOPLE 2000 food and drug safety priority area and co-lead with NIH on the nutrition priority area.

FDA Prevention Highlights

Anabolic Steroids. As recommended in the 1990 "Report from the Interagency Task Force on Anabolic Steroids," FDA developed a comprehensive, high-visibility media campaign to address the problems of steroid abuse. Subsequently, new legislation, the Anabolic Steroids Control Act of 1990 (Public Law 101-647), authorized the Center for Substance Abuse Prevention (CSAP) in the Substance Abuse and Mental Health Services Administration to develop and support programs to identify and deter the improper use or abuse of anabolic steroids by students, especially in secondary schools. Pursuant to this new legislative mandate, FDA transmitted its program initiatives to CSAP.

Prescription Drug Patient Education Activities. Since 1984, FDA and the National Council on Patient Information and Education have coordinated the development and implementation of major prescription drug patient education initiatives in the public and private sectors. The initiatives are concentrated in three main areas: urging patients to request information about prescription drugs, encouraging health professionals to provide information, and monitoring patient education activities. The 1992 "Communicate Before You Medicate" campaign was focused on the safe use of medicines, to cure, control, or prevent many illnesses. Previous FDA initiatives included the "Women and Medications" campaign that emphasized the safe and effective use of medications by women, especially pregnant, nursing, and menopausal women and minority and older women. Other activities include the "Brown Bag Medicine Review Program," and "Can Patient Education Really Make a Difference?" campaign, "Talk About Prescriptions Month" (October), "Making Progress in Medicine Communication: The Outcomes Challenge," and "Medicines: What Every Women Should Know."

In December 1991, the Commissioner of Food and Drugs announced an initiative to call on health professionals to begin a new effort to educate patients about their prescription drugs. To address food and drug safety objective 12.6 of HEALTHY PEOPLE 2000—targeting increased medication counseling for older Americans, FDA conducted a nationwide random survey in 1992 to develop baseline data on the nature and effect of prescription drug information, either verbally or in written form, received by patients from health professionals, and from other sources. Patients were asked about information received and about their willingness to seek out prescription drug information from health professionals and others.

FDA is working with the American Association of Retired Persons to survey customers of their mail pharmacy service to identify the types of medication information this population group found most beneficial. Results from tested information formats will describe the usefulness of such targeted information on affecting knowledge of risk/benefit information and will be disseminated nationwide to planners of patient drug education programs for the older adult.

Health Fraud. FDA uses a combination of enforcement and education strategies to combat health fraud by working closely with many other groups to build coalitions among government and private agencies at the national, State and local lev-

els. FDA district offices nationwide monitor promotions for suspected fraudulent health-related products and orchestrate appropriate regulatory action through FDA's National Health Fraud Coordinator, whose office maintains a National Health Fraud System data base. Since 1989, regional bilingual conferences have been held to provide practical guidance to individuals and organizations to combat health fraud, quackery, and misinformation. Statewide regional conferences were held in Santa Fe, New Mexico, and Miami, Florida, in May 1993. FDA has joined with the National Association of Consumer Agency Administrators (NACAA) to establish the NACAA Health Products Promotions Information Exchange Network. FDA, the Federal Trade Commission, the U.S. Postal Service, and State and local offices supply information on health products and promotions, consumer education materials for use by print and broadcast media, and contacts in each contributing agency. FDA has recently established an office to combat the risks to public health presented by advertising fraud and product misrepresentations.

Health Is Life. FDA, the National Urban League, and the Food Marketing Institute are cooperating in a "Health Is Life" program, designed to increase consumer knowledge about the importance of proper diet and health care. These events, focusing on health concerns of African Americans, were conducted by Urban Leagues affiliates in Houston, Texas; New Orleans, Louisiana; Tallahassee, Florida; Winston-Salem, North Carolina; Columbia, South Carolina; and Richmond, Virginia, in February and March 1993. The program, held in conjunction with Black History Month in February and National Nutrition Month in March, will enable consumers to modify risk behaviors associated with diet and nutrition, as well as to become informed about diet and medication and the importance of health care screening, which includes mammography, blood pressure, sickle cell disease, lupus, cholesterol, and lung disorders.

Para Vivir Bien. Para Vivir Bien (To Live Well) is a project designed to develop nutrition education materials based on the *Dietary Guidelines for Americans*. This will be part of a national nutrition labeling education initiative to raise awareness of the importance of diet and health among the Hispanic population. The project will be conducted by COSSMHO (a coalition of Hispanic health and human service organizations) and is funded by FDA, the Food Marketing Institute, and the Human Nutrition and Information Service of the U.S. Department of Agriculture.

Community Health Education Centers. The purpose of the pilot demonstration, Community Health Education Centers, is to create model health promotion and disease prevention programs through historically Black Colleges and Universities (Morehouse School of Medicine, Texas Southern University's School of Pharmacy, and Spelman College). The project targets programs on patient education, diet and health, women's health, and safe use of medications by disadvantaged and minority consumers. Through the use of modified low literacy materials and dissemination techniques, the project will assure access to health information that can help to modify risk behaviors associated with diet/nutrition and to become informed about medications and the importance of mammography screening.

Breast Implant Information Hotline (1-800-532-4440). Through this hotline, the FDA Office of Consumer Affairs continues to provide callers with the opportunity to receive up-to-date written information on breast implants. In the first 6 months since its implementation in July 1992, FDA responded to approximately 3,500 calls and letters.

Food Safety. Measures to achieve reductions in lead exposures from all sources are underway. Standards for new lower action levels for leachable lead from ceramics were published and are being enforced, and new regulations banning the use of lead-soldered cans for food packaging and lead foil seals for use on wine bottles have been developed. Efforts are also underway to better educate consumers of the potential hazards associated with improper handling and preparation of seafood and to increase participation in the FDA/NMFS Seafood Inspection Program. New regulations are being drafted to ensure that infant formula provides a safe, wholesome, and comprehensive source of nutrition. Proposals governing allowable limits for contaminants in bottled water have also been published, further ensuring bottled water as a safe food. Carefully designed surveys are periodically conducted to assess consumer awareness between diet-disease relationships, which provide valuable data for determining consumer education requirements. A series of comprehensive regulations has been issued to improve the utility of the food label as an aid to assist consumers in making healthy food choices.

CENTER FOR DRUG EVALUATION AND RESEARCH (CDER)

FDA's Center for Drug Evaluation and Research is responsible for assuring that all marketed drug products are safe and effective for their labeled indications and that clinical investigations of not-yet-approved products respect the rights of human subjects. The approval of drug products for human use subject to regulation under the Federal Food, Drug and Cosmetic Act and the Public Health Service Act is based on thorough review of extensive scientific data and test results submitted to CDER by the product sponsor, usually a manufacturer who is seeking to market the product. CDER's role also includes monitoring the various facilities involved in the manufacture and distribution of these products.

CDER is involved in the development of a number of treatments aimed at preventing diseases, such as osteoporosis, diabetic complications, cardiovascular disease, cancer, and development of AIDS in asymptomatic HIV-infected individuals. CDER reviewers working with the Office of Orphan Drug Products assist in the development of preventive treatments for conditions affecting as few as a dozen people in the country.

CDER epidemiologists continue to monitor the occurrence of known and previously unidentified adverse reactions to all marketed drugs. The information is shared with pharmaceutical manufacturers and physicians, to reduce or help prevent adverse reactions to marketed drugs.

CDER Prevention Highlights

Heart Disease. A number of drugs have been approved for the lowering of blood lipids to prevent atherosclerotic, cardio-

[illegible] the basis of biochemical data (i.e., lowering blood cholesterol levels), more recent approvals have been supported by mortality and morbidity data. These data will be required in the future [illegible] support the effectiveness of estrogen replacement therapy in preventing coronary atherosclerotic heart disease in postmenopausal women.

Metabolic and Endocrine Drugs. Estrogen treatment for the prevention of osteoporosis has been approved after controlled studies demonstrated reduced rates of fractures in estrogen treated women. Several drugs have been evaluated for the prevention of the major complications of diabetes including retinopathy, peripheral neuropathy, and nephropathy. [illegible] active, and several new therapeutic approaches have recently emerged. Trials to prevent prostatic hypertrophy and prostatic cancer are already underway with a drug previously approved for treatment of symptomatic prostatic hypertrophy. Of major interest is investigation of compounds that may slow some parts of the aging process.

AIDS. [illegible] by product sponsors in the evaluation of antiviral drugs that [illegible] HIV. In addition, non-viral, anti-microbial agents continue to be investigated for their potential value in preventing opportunistic infections in AIDS patients. A few drug treatments are in the early stages of investigation for their potential use in preventing the malnutrition associated with AIDS.

Sexually Transmitted Disease Prevention. CDER experts are involved with colleagues in the Center for Devices and Radiological Health (CDRH) in efforts to develop standards for the clinical testing and manufacture of male and female condoms and spermicides. These products have been shown to prevent the transmission of sexually transmitted diseases including AIDS.

Cancer. A wide range of compounds including carotenoids, [illegible] vention of various forms of cancer. Estrogen and progesterone therapies are being shown to prevent, respectively, cervical and endometrial cancer. Tamoxifen, an estrogen receptor blocker, is under evaluation for its value in preventing breast [illegible]

Accelerated Approval. Final regulations were published in [illegible] nisms that utilize earlier indicators of disease progression such as surrogate markers to facilitate drug therapy development.

Over-the-Counter Drugs. CDER has been involved in a number of initiatives to define therapies that would safely allow patients access to non-prescription drugs. Current educational activities include the "OTC Drug Labeling and Children" public education campaign and the public education video "Looking at the OTC Label," which featured FDA's Commissioner Kessler. A special initiative on OTC drugs has resulted in a marketing ban on over 400 ineffective ingredients, which included over 100 ingredients promoted for weight loss. A second ban of over 400 additional ineffective ingredients has recently been promulgated.

HIV. CDER has actively pursued cooperative efforts with NIH and product sponsors to define the most efficient approach to performing clinical trials to assess therapies for the prevention of opportunistic infections that HIV patients are at high risk of contracting.

Tuberculosis. CDER has been assisting NIH and drug manufacturers in developing new therapies designed to improve [illegible] with resultant increased spread of the disease into the population.

Prevention of Birth Defects. CDER coordinated an effort, [illegible] to define environmental exposure to a probable teratogenic therapeutic agent. Providing information relevant to this exposure in the product's label will assist [illegible] in preventing exposure of pregnant health care [illegible] to a potential teratogen.

CENTER FOR BIOLOGICS EVALUATION AND RESEARCH (CBER)

FDA's Center for Biologics Evaluation and Research assures the safety and effectiveness of all biological products for disease prevention or treatment. These products include biological therapeutics; viral, bacterial, and rickettsial vaccines; antitoxins; therapeutic serums; allergenic products; and blood products. CBER is responsible for establishing and maintaining standards of safety, purity, and potency of all biologicals [illegible] to the provisions of both the Public Health Service Act and the Federal Food, Drug and Cosmetic Act. Through its laboratory-based regulatory program, CBER evaluates and licenses biologics manufacturing firms and [illegible] reviews and improves licensing and batch control procedures; develops necessary regulations, compliance programs, and guidelines; and removes ineffective, unsafe, or improperly labeled products from the market.

CBER was reorganized into four new offices: Blood Research and Review; Therapeutics Research and Review; Vaccine Research and Review; and Establishment Licensing and Surveillance. The implementation of the Prescription Drug User Fee Act of 1992 will provide resources to the Center that will complement the new structure and enhance the review of new biological products by CBER.

CBER Prevention Highlights

Blood Safety. CBER is responsible for the primary public health goal of ensuring safety of the U.S. blood supply, including the prevention of transfusion-associated infectious diseases. Regulatory mechanisms designed to ensure blood safety include the establishment of policies, approval authority for blood products and establishments, and surveillance and enforcement activities. CBER has recently begun a comprehensive blood safety initiative designed to (1) ensure compliance throughout the blood industry through development and im-

plementation of sophisticated quality assurance programs, (2) reduce toward zero the risk of infection transmission by blood transfusion and (3) develop programs to assure accurate public perceptions regarding the quality of the blood supply, the adequacy of the efforts of the blood industry, and the appropriateness of FDA policies and procedures.

Safety of the Blood Supply. To reduce exposure to HIV, CBER has developed and recommended improved methods of donor selection, including face-to-face medical interviews and the use of direct questions about high-risk behavior. CBER has also licensed a screening test for antibodies to HIV-2 and will soon approve combination tests for detection of antibodies to HIV-1 and HIV-2 in anticipation of an eventual need to screen donations for HIV-2. To reduce transmission of hepatitis, CBER has licensed and recommended use of a screening test for antibodies to hepatitis C. Additionally, licensure of plasma derived and recombinant Factor VIII preparations and Factor IX produced with improved methods of viral inactivation will further prevent both HIV and hepatitis infections in patients with hemophilia who receive these products. CBER is also attempting to reduce errors and accidents in blood establishments through educational efforts, increased requirements for reporting and more intensive inspections.

In addition, CBER has recently licensed anti-hepatitis B-core and anti-hepatitis C antibody kits, tests that aid in the diagnosis of ongoing or previous hepatitis infection. These products are widely used to screen blood intended for transfusion to detect some cases of hepatitis B infection that are not detected by the FDA-required test for hepatitis B surface antigen.

Vaccines. FDA has recently approved 2 DTP vaccines containing acellular pertussis to be used for immunization at the time of 4th and 5th doses. FDA's scientists have collaborated with NIH in the laboratory and clinic where acellular pertussis vaccines are being evaluated in infants which offer the potential of being less reactive in these children. In addition, a Japanese encephalitis vaccine was approved after further evaluation of the information available on safety and efficacy; this vaccine may be offered to selected travelers to sites at high risk for disease.

The annual reformulations of influenza vaccine assure protection against prevalent strains and offer protection to those who are at greatest risk. CBER also sponsored a workshop directed at methods to be used to evaluate polio neurovirulence.

The decade of the 1990s may see the introduction of several new vaccines including vaccines against typhoid fever, additional polipaccharide conjugate vaccines, new types of hepatitis, and multiple combination vaccines. AIDS vaccine research continues to be of high priority. FDA is working closely with NIH and other agencies on trial design and evaluation criteria.

FDA recently approved the use of two vaccines against Hemophilus B, the leading cause of bacterial meningitis. Already licensed for children beginning at 18 months of age, the new use of Hemophilus B vaccine in infants as early as 2 months of age is expected to prevent the majority of Hemophilus B infections, which frequently strike children between 6 and 12 months of age and can lead to brain damage and death in infants. This licensing action represents the first approval of a vaccine for routine use in infants in almost 30 years.

Biotechnology. Advances in biotechnology, particularly genetically engineered organisms, have led to safer and more effective diagnostics, therapeutics, and vaccines. CBER maintains up-to-date knowledge of biotechnological techniques and methodologies. It sponsors and conducts research to foster the development of new products and provides a sound scientific basis for their regulation. An emerging area of development is somatic cell and gene therapy.

Acquired Immunodeficiency Syndrome (AIDS). CBER scientists are evaluating the specificity of immune responses induced by candidate AIDS vaccines and developing information needed to evaluate vaccine safety and efficacy. In addition, CBER is making important contributions to the search for therapeutic approaches to AIDS.

CENTER FOR FOOD SAFETY AND APPLIED NUTRITION (CFSAN)

The Center for Food Safety and Applied Nutrition monitors the food and cosmetic industries to provide consumers with the best possible assurances that foods and cosmetics are honestly labeled, safe, nutritious, and wholesome. CFSAN's regulatory strategy includes conducting inspections of food establishments and analyzing food samples to detect and remove hazardous foodstuffs from the market; conducting, supporting, and encouraging research to detect and determine what agents, occurring naturally or added to food, may be injurious to health; reviewing industry petitions to permit safe use of food and color additives; conducting nutrient analyses and food labeling initiatives including implementing the 1990 Nutrition Labeling and Education Act; complying with nutrition labeling regulations and the Infant Formula Act; enhanced monitoring of seafood safety coordinated through the new Office of Seafood; monitoring levels of pesticides and other chemical contaminants in the food supply; promoting adoption of uniform model codes; and providing guidance, training, technical assistance, and evaluation of State and local food safety programs.

CFSAN Prevention Highlights

Seafood Safety. CFSAN's Office of Seafood is managing a number of initiatives aimed at assuring the safety of seafood. One initiative involves a national chemical contaminants conference to obtain information that will be used by FDA as part of its risk management, communication, and assessment activities. Another initiative involves educating certain immunocompromised populations about the special risk from marine bacteria of the vibrio species, which should only be eaten after thorough cooking. FDA is also working with States to upgrade the entire safety program for molluscan shellfish. A third initiative involves the development of international agreements with countries that export seafood to the United States to assure that their government programs are equivalent to U.S. programs. Seafood research, mandatory inspections of processors, sampling and export examinations have been upgraded or are in the process of being upgraded. FDA and the National Oceanic and Atmospheric Administration are piloting a special program to enhance safety and quality of seafood at retail

establishments by using Hazard Analysis Critical Control Point (HACCP) principles with the seafood industry.

Infant Formula. The Food, Drug and Cosmetic Act was amended by the Drug Enforcement, Education and Control Act [illegible] Public Law [illegible] to address concerns expressed about the regulation of infant formula manufacturers. These 1986 amendments require FDA to publish new or revised regulations concerning current good manufacturing practices, quality control procedures, consumer complaint files, recalls, manufacturers' audits, nutrient testing, testing for potential microbiological and chemical contaminants and associated record retention to document the fulfillment of these requirements for infant formulas.

On January 26, 1989, FDA published in the *Federal Register* a proposal (54 FR 3783) to revise its infant formula regulations with respect to records retention, microbiological and nutrient testing, manufacturers, audits, and consumer complaints. The final rule was issued in 1993. FDA is in the process of developing good manufacturing practices regulations for infant formula manufacturers to help ensure a safe, [illegible]

Health and Diet Surveys. CFSAN conducts consumer surveys to estimate the prevalence and population distribution of health behaviors related to dietary concerns and to track public [illegible] tionships. Data on diet-disease relationships are available for the period 1982-1993 for the general population, as well as for older adults and racial and ethnic minorities. Recent studies have examined the prevalence of various weight-loss practices and types of weight-loss regimens, usage styles of vitamin and mineral supplement consumers, infant feeding practices during the first 12 months of life, food handling practices and awareness of microbiological food hazards, and the prevalence [illegible] use nutrition labels for various purposes. These surveys are part of the National Nutrition Monitoring System, which supports a variety of public education, evaluation, and policy initiatives.

Molecular Biology Research. [illegible] DNA technology for the identification of potential pathogens in foods has been ongoing within CFSAN. Synthetic genetic probes for *Listeria monocytogenes*, *Shigella spp.*, *Yersinia enterocolitica*, and *enterohemorrhagic E. coli* O157:H7, to name a few, have been developed at CFSAN and applied by Office of Regional Operations field microbiologists. Onsite capabilities for synthesis, purification, and labeling of such probes ensure that CFSAN is able to quickly respond to potential concerns about the safety of our food supply. Non-radioactive chemiluminescent probe methodologies have been exploited within CFSAN to supplant the use of radioactivity, normally used in probing analysis. Using a bacterial paradigm, non-radioactive methods have been developed that permit discrimination of a single base-pair mismatch. Such techniques should make the use of genetic probes more palatable to the community at large. Polymerase chain reaction (PCR) is a versatile technique that permits ready *in vitro* amplification of DNA. The technique has been used within CFSAN, for example, to develop rapid methods for detection of bacterial and viral pathogens. Because the technique obviates the need for cell culture, even those pathogens refractory to growth *in vitro* can be detected readily with PCR. A combination of PCR and genetic probe analysis is being used for the detection of hepatitis A and Norwalk agent in shellfish and other foods. PCR is being used in concert with mismatch analysis to quickly identify unique markers for particular pathogens. Such an approach, for example, is proving integral to the design of specific probes for *Salmonella enteritidis*. The products of this research are being utilized, not only by FDA, but by other PHS agencies.

Nutrition Labeling. On January 6, 1993, DHHS published final rules to improve the utility of the food label in making healthy food choices. These regulations are based on FDA's evaluation of comments to proposals it published on July 19, 1990, and November 27, 1991. The regulations implement the provisions of the Nutrition Labeling and Education Act of 1990 (NLEA). Signed into law on November 8, 1990, the goals and provisions of the NLEA will require changes in almost every food label. Beginning May 8, 1993, labels must contain improved ingredient listing information and the percentage juice content for fruit and vegetable juice products. Beginning May 8, 1993, the labels for food products containing health claims must conform to the requirements of the [illegible] to ensure the validity of the claims. Beginning May 8, 1994, the labels for almost all packaged food products must include improved nutritional information and the use of nutrient content claims (i.e., descriptor claims such as low and light) must conform to the new requirements of the final [illegible] Under a provision of the NLEA, retailers have been voluntarily providing nutritional information on raw produce and fish since November 27, 1991. Once the food industry implements all of the food labeling changes, consumers will be able to find complete nutrition information on most packaged foods, raw produce, and fish. The revised labels will make it possible to compare serving sizes for similar items; nutrient content claims will be clearly defined; health claims will be regulated to ensure that they are supported by significant scientific agreement; and ingredient statements will be more informative. FDA has undertaken a consumer education program to inform consumers about the changes and the importance of label information in maintaining healthy dietary practices.

Health Claims on Food Labels. Health claims are labeling statements that expressly or by implication characterize the relationship of any substance (i.e., a specific food or component of food) to a disease or health-related condition. The NLEA provides that food labels may contain only those health claims that have been specifically authorized by the FDA. On January 6, 1993, FDA published a regulation providing general guidance concerning health claims and the submission of petitions to obtain FDA approval of health claims. FDA also published final rules authorizing several health claims to be used on food labels. The intent of the regulations is to allow claims that inform consumers about how selected dietary patterns may influence the occurrence of specific diseases and to assist consumers in making informed dietary choices at the point of purchase. It is important that these statements be truthful and balanced, neither misleading the consumer nor overemphasizing the role of a specific food and its place in the context of a total diet.

CENTER FOR DEVICES AND RADIOLOGICAL HEALTH (CDRH)

FDA's Center for Devices and Radiological Health develops and implements national programs to protect the public health in fields of medical devices and radiological health. These programs are intended to assure the safety, effectiveness, and proper labeling of medical devices and to prevent unnecessary human exposure to potentially hazardous ionizing and non-ionizing radiation and to ensure the safe and efficacious use of such radiation. CDRH issues standards for radiation-emitting products, develops recommendations on safe radiation practices, and conducts education programs on radiation protection for health professionals and consumers. CDRH classifies medical devices into various regulatory groups, depending on the degree of control necessary to ensure each device's safety and effectiveness. CDRH reviews clinical data for devices that require approval before marketing. CDRH requires the use of Good Manufacturing Practices, requires that devices bear adequate labeling, provides guidance to industry on how to comply with all requirements, and periodically reviews and revises the list of critical devices. CDRH also conducts research and testing related to medical devices, collects and evaluates data for device-related hazards, and conducts education programs for health professionals and consumers on the safe and effective use of medical devices.

CDRH Prevention Highlights

Acquired Immunodeficiency Syndrome (AIDS). CDRH's Office of Device Evaluation has implemented a priority review program to ensure that devices with specific AIDS prevention, diagnostic, or therapeutic claims are evaluated as quickly as possible. For devices already on the market that are intended for prevention of HIV transmission (e.g., latex condoms and surgical and examination gloves), the Office of Compliance and Surveillance collects samples for product testing. Postmarketing surveillance data is necessary to ensure that these devices are adequately labeled for the intended users. In order to assess the risk of transmission of bloodborne pathogens, including HIV, through condoms and medical gloves, the Office of Science and Technology continues to conduct laboratory research on the barrier effectiveness of these devices. Since 1991, the Office of Training and Assistance has been distributing its booklet, *Condoms and Sexually Transmitted Diseases...Especially AIDS*, to educate the public, health and medical professionals, and health educators on the proper selection, storage, use, and quality assurance of condoms. In FY 1993, a Spanish language version was distributed.

Anesthesia Education. In response to studies and data indicating that patient injuries and deaths related to anesthesia were often due to machine setup errors and faults present in the anesthesia device prior to use, CDRH developed a pre-use checkout recommendation. Follow-up studies revealed that the FDA checkout procedure list was underused. In FY 1991, CDRH began studies with the anesthesia community to determine what types of changes in the checkout recommendation made it easier to use and to better motivate anesthesia professionals to follow the suggested checkout procedures. In 1992, CDRH released a new proposed anesthesia machine checkout list.

Hemodialysis. End Stage Renal Disease patients are totally dependent upon dialysis treatments for survival until they successfully receive a kidney transplant. If a transplant is not possible, they may need dialysis for the remainder of their lives. Because of the nature of the treatment, patients are vulnerable to possible hazards that can occur during dialysis. Some of these hazards arise from failure to maintain and use the equipment properly. Others arise from the various dialysis components. CDRH has initiated efforts to alleviate these problems. In association with patient groups, health professional organizations, and industry, CDRH has developed several videotapes for the hemodialysis community. These include videos on quality assurance, infection control, water treatment and reuse, and basic dialysis. In addition to information on dialysis equipment and its limitations, the videos include general information about the kidneys and how hemostasis is maintained by artificial means when the kidneys stop functioning as a result of disease or injury. CDRH is presently addressing issues involving adequate and effective safe reuse of dialyzers by the same patients.

Mammography Quality Assurance. CDRH develops educational materials for women and their physicians on how to identify facilities that have mammography equipment, proper techniques, trained and experienced radiologists and technologists, and good quality assurance. CDRH also monitors the practice of mammography through a cooperative program with State health departments and works with the radiology community to improve the overall quality of mammographic practices. In 1992, CDRH provided technical assistance to HCFA for implementation of new mammographic quality assurance legislation.

Apnea Monitors. Infants, otherwise appearing healthy, can be prone to cessation of breathing episodes referred to as "apnea." Apnea monitors are devices intended to measure or monitor a patient's respiratory rate and to notify providers of apnea episodes quickly. CDRH initiated development of a mandatory performance standard for apnea monitors. The published draft standards are intended to set minimum performance requirements that provide a reasonable assurance of safety and effectiveness.

Toxic Shock Syndrome (TSS). Studies show that higher absorbency tampons are associated with an increased risk of TSS. In 1989, FDA issued final regulations requiring tampon manufacturers to label the absorbency of their products so that the current terms correspond to standardized ranges of absorbency. This has enabled purchasers to compare brands and buy lower absorbency products to reduce their risk of contracting TSS. CDRH updated its TSS education pamphlet and learning unit and mailed them to health educators and school nurses in public, private, and parochial junior and senior high schools. This revised poster-format learning unit is to be used to inform new tampon users, particularly high-risk groups such as young women and teenage girls, of the association between tampon absorbency and TSS risk.

Extremely Low Frequency (ELF) Radiation. Under the Radiation Control for Health and Safety Act of 1968, FDA has authority to regulate electrical products that emit electromagnetic fields if it can be shown that these products pose a

public health hazard. As a result of recent epidemiological studies, which suggest a relationship between exposure to ELF fields and cancer, and possibly to birth defects, CDRH [illegible] concern to CDRH are electric blankets and video display terminals. After briefing the Technical Electronic Product Radiation Safety Standards Committee on the scientific and regulatory aspects of this issue, the Center has developed a strategy for working with manufacturers to voluntarily reduce ELF emissions.

Breast Implants. There has been growing concern over [illegible] body's reaction to silicone. In addition to CDRH's recent action restricting use of these implants while more data are collected, CDRH has convened a working group to develop educational materials on silicone breast implants. The group is [illegible] known risks and benefits of silicone breast implants to prospective implant patients. This will assist patients in mak- [illegible] vices. Limited availability of silicone gel implants continues while additional data is being collected and clinical studies are conducted.

FDA has announced the start of a process to require manufacturers of saline breast implants to submit evidence that they are safe and effective. In addition, it will propose to call for safety and effectiveness data on testicular and penile implants, [illegible] FDA was given regulatory authority over them.

Device-Mediated Bloodborne Infections. As many as [illegible]00 health care workers are injured by accidental needle sticks annually. Between 200 and 300 health care workers die [illegible] occupationally acquired hepatitis B annually, with thousands more infected per year. Many have acquired the HIV virus from such occupational exposures as well. CDRH collaborated with CDC and OSHA on a conference on the role of [illegible] HIV [illegible]

Physical Restraints. In response to deaths, injuries, and mis- [illegible] CDRH [illegible] process of increasing the level of scrutiny prior to marketing approval of these devices and is developing educational materials to help minimize the risks of use. These efforts are consistent with new HCFA regulations of physical restraint use in [illegible] CDRH [illegible] [illegible] FDA Commissioner cleared over 50 risk reduction products for the market and is evaluating methods of supporting a move to safer products that eliminate or shield the user from injury by sharp ends.

CENTER FOR VETERINARY MEDICINE (CVM)

FDA's Center for Veterinary Medicine is responsible for assuring that animal drugs and feed additives are safe and effective and that meat, milk, and eggs derived from treated animals are free from harmful or illegal residues. CVM carries out these responsibilities through premarketing product review, post-marketing surveillance and compliance activities, and educational initiatives. Eighty percent of the meat-producing animals in the United States receive medicated feed or drugs at some time during production.

In the mid-1980s, an FDA investigation revealed a nationwide, loosely knit network of persons involved in the black market trade of bulk animal drugs. Investigations by FDA have resulted in charges of conspiracy, smuggling, false statements, adulteration, and misbranding (inadequate directions, unregistered manufacturer). To date, there have been 52 guilty pleas, involving 5 veterinarians, 6 import brokers, and 2 smugglers and over 30 felony pleas, 15 prison sentences, and [illegible] $1 million in seized goods.

Recently, residues in milk resulting from the illegal use of sulfamethazine (SMZ) and other drugs in lactating dairy cattle have become a problem. FDA issued warnings to dairy farmers and veterinarians against the illegal use of SMZ in animals producing milk for human consumption. SMZ has been identified by FDA scientists as a potentially dangerous drug that cannot be used in food-producing animals safely as long as illegal drug residues result from such use. In 1991, FDA initiated the National Drug Residue Milk Monitoring Program, which routinely tests raw milk for drug residues. Information [illegible]ted under the plan is used in Federal, State, and local dairy farmer and industry education and compliance efforts. CVM's educational message in this and other programs is prevention. FDA has conducted several workshops and sympo- [illegible] industry and others about proper drug use, i.e., "Prevention of Unwanted Drug Residue," "Proper Ani- [illegible] Drug Use: Developing an Agenda for the Nineties," "Feed Quality Assurance—A System-Wide Approach," "IR-4/FDA Workshop for Minor Use Drugs—Focus on Aquaculture," "Good Manufacturing Practices for Animal Drug Manufacturers," and "Perspectives on Food Safety." In addition, FDA [illegible] that promotes the proper use of veterinary drugs; the exhibit is displayed at major agricultural and veterinary events. More than 250,000 animal producers, veterinarians, agricultural communicators and consumers attend these meetings each year.

NATIONAL CENTER FOR TOXICOLOGICAL RESEARCH (NCTR)

The National Center for Toxicological Research (NCTR) is a research facility that serves the regulatory needs of FDA. NCTR's research efforts study the biological effects of potentially toxic chemicals and the complex mechanisms that govern their toxicity. Collectively, these programs seek to define risks to human health from exposure to toxicants in foods, animal, and human drugs, cosmetics, medical devices, and biologics and to improve FDA's ability to predict the human risk factor imposed by toxic agents. In addition, NCTR conducts studies of dose-response relationships for evaluation of genetic aberrations, birth defects, cancer, and biochemical and metabolic alterations induced in animals and their relevance to human health. Research conducted at NCTR and other institutions on the bioactivation of toxicants raises doubt about the reliability of the standard animal bioassay in assessing human health risk. Research on Secondary Mechanisms of Toxicity

investigates the role of normal biochemical processes in the bioactivation of compounds that result in a toxic response. NCTR's program on quantitative risk assessment and extrapolation addresses the underlying assumptions associated with establishing human health standards, to include extrapolating animal data to man. Chemical methods, particularly the evaluation of biomarkers, will allow scientists to monitor toxicity within the human population. Recognizing that humans handle activation or detoxification of chemicals in different ways and that genetic factors play a role in how an individual deals with toxic exposure. FDA may be better able to predict risk within certain subsets of the human population through more finely tuned biochemical markers of toxicity.

NCTR, in conjunction with the National Institute on Aging and FDA's Center for Food Safety and Applied Nutrition, is actively pursuing research that explains the role diet plays in toxicity and is in year 6 of a 10-year Project on Caloric Restriction. Food contaminants occur in a large portion of the products FDA regulates. NCTR, through its program on Nutritional Modulators of Risk and Toxicity, is exploring the role DNA methylation plays in toxicity and is evaluating the effects heavy metals have on human health.

Methods Development for Regulatory Needs. Concern for safe and effective foods and drugs requires development of new, more accurate methods to evaluate foods and drugs for toxic substances that may pose a risk to human health. Current procedures, while accurate, are subject to individual interpretation and variation. As more products are imported from foreign countries with different regulatory requirements, FDA must develop methods for testing these imports. Since it is unethical to test chemicals on pregnant women, the developmental toxicity program validates improved animal models for detection of developmental toxicants. These data, in turn, are used to develop improved biologically based dose response models to aid in developmental risk assessment in humans.

NCTR Prevention Highlights

Biochemical and Molecular Markers of Cancer. Difficulty exists in extrapolating risk from animals to humans and in determining the significant biological exposure. This program develops quantitative toxicity indicators of human exposure and/or effect and predicts individual/population susceptibility to the toxic effects of specific chemicals or classes of chemicals. The ultimate goal is to predict a toxic response in humans by using biological endpoints as markers and to better understand human exposure and susceptibility based on evaluation of these biomarkers.

NCTR is developing a comprehensive scientific data base to reduce the uncertainty in risk assessment/risk benefit analysis for specific chemicals. This program is a cooperative effort between FDA with funding coming primarily from the National Toxicology Program.

Nutritional Modulators of Risk and Toxicity. The identification of nutritional components that can modulate the toxic chemical response is necessary for understanding risk and the rational extrapolation of animal data to humans. Incorporated into this program are studies dealing with the effects of essential nutrients on human risk. Approximately one-third of human carcinogenic risk can be ascribed to toxicants in the diet and/or to the interactions of diet and toxicants. This program explores the adverse effects of dietary toxicants through an understanding of the mechanisms by which natural protection occurs.

Quantitative Risk Assessment/Extrapolation. Regulatory decisions regarding toxic substances often are based upon estimates of risk generated via scientific consensus. These estimates of risk are generated more frequently through quantitative risk assessment using human and/or animal data to estimate the risk of toxic reaction from human exposure to toxic substances. This program addresses problems involved in the extrapolation of risk estimates across species, from high-to-low doses, from continuous-to-intermittent exposures and from single substances-to-complex mixtures.

Secondary Mechanisms of Toxicity. Exposure to toxic chemicals can result in a direct risk to an organism, or it may result in indirect modifications of a process that ultimately results in a toxic response. Since these responses are often highly species-dependent, this program is designed to assess nongenotoxic mechanisms and the secondary effects of genotoxic chemicals (e.g., induction of cell proliferation; alteration in specific gene expression in humans and experimental animals).

Solid State Toxicity. Research will evaluate the potential toxicity of the materials used in medical devices. With the onset of replacement therapy for diseased or dysfunctional organ systems, long-term exposure to synthetic polymers may occur. There is little or no toxicity information available for long-term exposure to these compounds. Research in this program will provide the data needed to make informed risk decisions when reviewing and approving new devices.

Transgenics. FDA has a need to develop animal models that mimic human response. The development of transgenic models represents a new opportunity to insert human genes into a test animal in such a way as to mimic the human biological response to drugs, carcinogens, and other chemical or biological agents. This program will capitalize on the animal facilities available at NCTR.

Applied and Environmental Microbiology. Microorganisms play an important role in the metabolic activation and detoxification of toxicants that enter the human food chain. This program will apply microbiological principles and methodologies, such as the model human intestinal microflora culture systems and environmental microcosms, to determine the effects that novel food additives have on the intestinal metabolism and microbial ecology of the lower intestinal tract. Food additives are regulated by FDA and intended for use in the human diet at micronutrient levels. Initial focus in this effort will be on indigestible or poorly digestible micronutrient replacement products with molecular structures that are not common in food.

Developmental Toxicology. Procedures being developed will detect a full range of toxic manifestations throughout the development of the organism. These studies will expand the knowledge of basic developmental processes as affected by toxicants, and to define the mechanisms accompanying birth defects in humans and experimental animals. This research develops a sound data base of comparative pharmacokinetics,

metabolism and biomarkers in the developing animal to define and validate mathematical models for extrapolation of animal data to humans.

Neurotoxicology. The overall goals of the neurotoxicology program are to develop and validate quantitative biomarkers of neurotoxicity and to use these biomarkers to elucidate mechanisms and enhance the certainty of assumptions underlying risk assessment of neurotoxicants. The approach to these goals has been development of a multidisciplinary approach that integrates neurochemical, neuropathological, neurophysical, and behavioral assessments to determine effects and mechanisms of neurotoxicology.

Health Resources and Services Administration (HRSA)

The Health Resources and Services Administration provides leadership in assuring the support for and access to the delivery of primary and preventive health care and related support services, particularly to the disadvantaged and underserved. HRSA also develops health resources, encourages the geographic distribution of qualified health professionals, and strengthens service facilities to meet the health needs of the Nation. HRSA supports State- and community-based efforts to plan, organize, and deliver primary and preventive health care programs designed to strengthen the overall public health system, particularly to the underserved in rural areas, and in urban communities.

HRSA's approach to closing the gaps in access to health care services is to link what are often considered separate parts of the health care system—public health, primary care, and health professions training—in an integrated "health care" model. This integrated approach is fundamental to HRSA's ability to accomplish its mission.

HRSA has either the lead or co-lead responsibility with CDC for several HEALTHY PEOPLE 2000 priority areas.

Each of HRSA's four bureaus contributes to the prevention activities carried out by the Agency: the Bureau of Primary Health Care, the Maternal and Child Health Bureau, the Bureau of Health Professions, and the Bureau of Health Resources Development. In addition, the Office of Rural Health Policy coordinates and funds a variety of programs that contribute to the prevention effort.

BUREAU OF PRIMARY HEALTH CARE (BPHC)

The Bureau of Primary Health Care (BPHC) helps assure the delivery of health care services to residents of medically underserved areas and persons with special health care needs. BPHC provides prevention-oriented primary care services to underserved populations through community health centers and to migrant and seasonal farm workers and their families through migrant health centers. It assures the availability of health care in health professional shortage areas by placing health care providers through the National Health Service Corps (NHSC). The NHSC Scholarship Program and the Loan Repayment Programs assist with these placements.

Through grants to or contracts with State and local public and private entities, BPHC provides funds to meet the needs of special populations such as the homeless, victims of black lung disease, substance abusers, residents of public housing, persons in need of home health services, and persons with Alzheimer's disease. It also provides leadership and direction for the National Hansen's Disease Program; promotes, plans, implements, and evaluates comprehensive occupational health programs within Federal agencies; and administers a health benefits program for designated PHS beneficiaries.

BPHC has an ongoing commitment to the basic mission of providing primary care services to at-risk, low-income populations that are not otherwise served by the health care delivery system. In addition, it recognizes that its program operations must adapt to the changing nature and needs of those populations and environments. To accomplish its mission, BPHC continues to develop linkages with Federal, State, and local health, social service, and financial agencies, health professional groups, and others with related interests to increase access to primary care services for the medically underserved and special population groups.

BPHC Prevention Highlights

Community/Migrant Health Centers (C/MHCs). C/MHCs are community-controlled primary care practices that are a vital part of the Nation's health care system, providing quality care to medically underserved urban and rural populations. Across the Nation, 550 C/MHCs provide basic primary medical care services with a culturally sensitive, family-oriented focus that emphasizes health promotion and disease and injury prevention. In addition to essential ancillary services such as laboratory, radiology, translation, case management, and pharmacy services, many centers provide transportation, nutrition, health education, and onsite dental services. Services are tailored to meet the specific needs of the communities served, including the needs of special population groups such as the HIV-infected, substance abusers, and the homeless. Most important, C/MHCs are part of systems of care, networking with local health departments and other agencies in the community to meet the needs of patients and their communities.

C/MHCs have a significant impact on their target populations, especially in activities and issues targeting prevention. C/MHCs have contributed to lower infant mortality rates, reduced hospitalization rates, and decreased hospital days for their user population. Additional activities that focus on improving the health of the underserved include:

- Development and implementation of C/MHC prevention-oriented clinical measures for all five life cycles (perinatal, pediatric, adolescent, adult, and geriatric);
- Establishment of cooperative agreements with private foundations to foster primary care and prevention in C/MHCs;

- Support for the Migrant Clinicians Network (MCN), which has developed culturally specific health promotion/disease prevention materials targeted to migrant and seasonal farm workers;
- Support of other clinical networks and joint prevention activities such as the Clinical Directors Network of Region II and the National Cancer Institute Prescribe for Health project to disseminate early cancer detection and prevention strategies among primary care providers;
- Compilation of a compendium of preventive health services provided by C/MHCs;
- Integration of CDC's Planned Approach to Community Health (PATCH) into the C/MHC program; and
- Dissemination of health promotion/disease prevention material to C/MHCs and State health agencies through the National Clearinghouse for Primary Care Information, which maintains relationships with other Federal and private health information clearinghouses.

Black Lung Clinics Program. Preventive health services are a major component of this program, which provides health care to active and inactive coal miners with respiratory and pulmonary impairments. Preventive services focus on reducing the incidence and severity of pulmonary disease and disability through health education and smoking cessation programs.

National Health Service Corps (NHSC). The National Health Service Corps addresses inequities in the geographical distribution of health personnel resources by the development, identification, placement, and maintenance of a highly qualified health work force of primary care providers. NHSC has placed highest priority on the recruitment of obstetricians/gynecologists, family practitioners, nurse practitioners, physician assistants, and nurse midwives in support of DHHS initiatives in pregnancy and infant health and the control of sexually transmitted diseases. NHSC continues to target its resources on high-priority areas to provide health personnel in support of BPHC initiatives. In FY 1992, NHSC field strength of on-duty physicians was 296 family physicians; 108 pediatricians, and 56 obstetricians/gynecologists, out of a total of 1,253 providers.

Reducing Low Birth Weight and Infant Mortality. The BPHC has expanded its efforts to improve pregnancy outcomes for the relatively high-risk populations served by C/MHCs. Congress appropriated $32 million in FY 1990, and $34 million in 1991 to enable C/MHCs to undertake a comprehensive perinatal care program that emphasizes the provision of improved and expanded maternal, infant, and child health services. In FY 1992, additional Federal dollars totaling almost $10 million were directly appropriated for the Infant Mortality Reduction Initiative in C/MHCs to expand Comprehensive Perinatal Care Program activities.

Substance Abuse. The BPHC is working to meet the HEALTHY PEOPLE 2000 objectives targeting the misuse of drugs and alcohol. In FY 1992, 15 primary care and drug treatment agencies were funded to link primary care services with drug abuse treatment to improve the effectiveness of drug treatment and to slow the transmission of HIV. Prevention activities include (1) increasing the awareness of primary care providers of the importance of screening for drug use and providing counseling and referral as needed, (2) participating in drug treatment and AIDS prevention networks that include representatives from community agencies, (3) providing substance abuse education programs to pregnant mothers, parents and adolescents, (4) disseminating culturally relevant substance abuse prevention materials, and (5) providing primary care services to substance users and their families. Over the 3 years of this demonstration program, services have been provided to over 25,000 individuals.

The Homeless. The Health Care for the Homeless Program is designed to stimulate local public and private agencies to increase their efforts to improve the health status of homeless persons and to increase coordination with other programs assisting the homeless population. In FY 1993, BPHC awarded grants to support 119 community-based organizations and coalitions providing primary health care, substance abuse, and mental health services to homeless families and individuals. Of the 119 grantees (including 9 new programs), 59 were C/MHCs. Several C/MHCs were included in community coalitions developed by the remaining 60 grantees. The 19 Robert Wood Johnson/PEW Foundation projects that provided the health care model incorporated in the Stewart B. McKinney Act of 1987, the authorizing legislation for the establishment of BPHC's program for the homeless, also were included.

Homeless Children. Health Care Services for Homeless Children, Section 340(s), was funded in FY 1993. Ten grantees were awarded funds to carry out demonstration programs to provide for the delivery of comprehensive primary health care services to homeless children and to children at imminent risk of homelessness.

Public Housing. The Public Housing Primary Care Program centers involve community residents in the planning, organization, operation, and implementation of services and programs designed to improve the health status of more than 100,000 residents of public housing areas. Under the authority of the 1990 Disadvantaged Minority Health Improvement Act, which initiated the Section 340A Health Services for Residents of Public Housing Program, some 3.5 million residents in 1.4 million public housing units are potentially eligible.

In FY 1992, BPHC awarded grants to support 14 organizations and coalitions providing primary health care. Of the 14 grantees (7 new starts), 8 are administered through Section 330 Community Health Centers, 2 are with established Section 340 Health Care for the Homeless projects, 1 is operated through a county health department, 2 are nonprofit community-based organizations, and 1 is a hospital-based program.

HIV and Other Sexually Transmitted Diseases. The BPHC continues to expand its efforts to provide comprehensive primary care services to population groups at high-risk for HIV infection and other sexually transmitted diseases. BPHC is funding community-based organizations under Title III(b) of the Ryan White CARE Act to provide HIV early intervention services to those identified as being at risk for or having HIV infection. Services include HIV counseling, testing, partner notification, and the diagnostic evaluation (including for other sexually transmitted diseases) of those persons found to be HIV-seropositive. Through comprehensive agreements

with the Centers for Disease Control and Prevention, BPHC [illegible] program, to incorporate HIV and STD prevention and treatment into primary care sites [illegible] target populations. In placing selected health care providers, the NHSC is targeting locations with a high incidence of AIDS and HIV-seropositivity that have demonstrated an inability to recruit physicians and other health personnel. Through its C/MHCs, BPHC is expanding the capacity of the health systems in underserved [illegible] other sexually transmitted diseases.

Preceptorship Program. Since 1985, BPHC has supported a preceptorship program for medical students in C/MHCs through a contract with the American Medical Student Association. More than 400 students have been placed, and an additional 175 students will be matched annually over the next 3 years. These students are employed to augment health promotion and disease prevention activities. The program exposes students to the challenges and opportunities of community primary health care and introduces them to the concepts of prevention and the health care needs of medically underserved people.

Training Activities. BPHC has offered and supported several long-term training opportunities for health professionals currently assigned in the NHSC, including didactic/work experience with CDC's Epidemic Intelligence service, extramural training leading to a Master of Public Health degree in maternal and child health, and Migrant Health Centers residency assignments in State health agencies. The program also provides an opportunity for NHSC/PHS dental officers to receive experience in the operation of State-level dental programs. It contributes to the development of a cadre of well-qualified public health dentists to support national fluoridation and oral health objectives.

BPHC also has entered into a cooperative effort with the Uniformed Services University of the Health Sciences to provide residency training in occupational medicine. It provides an opportunity for PHS physicians to receive the formal training necessary to become certified in occupational medicine. Long-term training was also made available to PHS nurses to provide training as nurse practitioners and nurse midwives.

Clinical Support Strategy (CSS). CSS advances NHSC support of BPHC efforts through workshops and inservice conferences. NHSC staff disseminate the latest information on (1) quality assurance, (2) dental disease prevention, (3) clinical issues in perinatal care, (4) sexually transmitted diseases, particularly AIDS, (5) clinical issues in hypertension, (6) substance abuse in the primary care delivery system, (7) occupational health and safety, (8) advanced trauma life support, (9) AIDS education and training, (10) health promotion for the elderly, (11) recognizing and addressing family violence and child abuse, (12) malpractice issues, and (13) advanced clinical skills.

Federal Occupational Health Program. The Division of Federal Occupational Health (FOH) develops standards and criteria for occupational health programs. It offers consultant services to Federal managers to assure that employee and workplace health factors that increase productivity and decrease liability are addressed. Occupational health program consultants are available on a reimbursable basis to assist Federal managers in defining, planning, implementing, and evaluating all aspects of their occupational health programs. The FOH operates 220 occupational health service centers throughout the United States. In 1992, it provided over $51 million of reimbursable occupational health consultation and services addressing a wide scope of issues and concerns, e.g., environmental monitoring, hazard control, medical surveillance, wellness-fitness, employee assistance, substance abuse, disability management, and medical information.

MATERNAL AND CHILD HEALTH BUREAU (MCHB)

The Maternal and Child Health Bureau is the principal Federal focus for the planning, implementation, and oversight of national MCH activities. The MCHB administers Title V of the Social Security Act, which includes a program of block grants to States to enable them to provide quality health care services to mothers, adolescents, and children. The program emphasizes provision and improvement of services to low-income populations that otherwise would have limited access to [illegible] services. Title V also provides funds for two programs of discretionary grants and contracts: the Special Projects of Regional and National Significance (SPRANS) program and the Community Integrated Services Systems (CISS). The MCHB uses SPRANS to provide leadership by stimulating innovative approaches and developing new resources in the MCH areas of research, training, genetic disease screening, testing, counseling, referral, information dissemination, hemophilia diagnosis and treatment, and projects aimed at improving health services for mothers, infants, children, and children with special health care needs. The CISS focuses on the building of infrastructure and systems at the community level. Additionally, the MCHB administers a number of other non-Title V authorizations including: Pediatric Aids Demonstrations, Ryan White Title IV, Emergency Medical Services for Children, [illegible] Healthy Start.

MCHB Prevention Highlights

Maternal and Child Health State Block Grants. The MCH State Block Grants provide States with funds to develop resources and an infrastructure to support the following types of health services: preventive measures to reduce infant mortality and prevent disease and permanent disability in infants, children, and youth; rehabilitation services for children and youth with special health needs; medical, surgical and corrective services for diagnosis, hospitalization, and care of children with disabilities or with chronic illnesses; hemophilia treatment centers and genetic disease counseling and screening projects; research and training projects; and other MCH programs proposed by the States.

Reducing Low Birth Weight and Infant Mortality. Despite improvements in maternal and child health and in reducing infant mortality, progress in addressing this problem has been slow. Infant mortality rates in certain geographic areas and for certain racial and ethnic groups, particularly blacks, substan-

tially exceed the national rate. There has been little change in other measures associated with increased risk of infant death, such as the incidence of low birth weight or access to prenatal care. Using SPRANS, MCHB continues to provide national leadership and focus toward improving pregnancy outcomes to coordinate Federal, State, and private efforts in infant mortality reduction. Areas of focus include a project with the American College of Obstetricians and Gynecologists to increase the availability and accessibility of obstetrician-gynecologists for inadequately served pregnant women; promoting nutrition education and services as part of primary care; managing chronic diseases and complications of childbearing, as necessary in specialty care; and expanding problem identification and problem solving at the community level through infant mortality review programs.

Healthy Start Initiative. The Healthy Start initiative is a demonstration program focused in 15 urban and rural communities with infant mortality rates at least 1.5 times the national average. The planning phase of Healthy Start was funded in FY 1992, and the operational phase began in July 1992. The goal is to reduce infant mortality by 50 percent in selected high-risk areas in 5 years. Resources will be concentrated where they are needed most to mobilize and capitalize on the capacity of families and communities to address infant mortality in a comprehensive manner.

An integral part of Healthy Start is a comprehensive evaluation and monitoring component. The program also includes a national information and education campaign to raise awareness of infant mortality and motivate early entry into preconception and prenatal care. A major feature of Healthy Start is the development of strong coalitions of local and State governments, the private sector, schools, religious groups, and neighborhood and community-based organizations. Together, the Healthy Start projects and their community coalitions are working to develop effective, comprehensive health care and social and support services for women and their babies.

Healthy Tomorrows Partnership. The Healthy Tomorrows Partnership for Children Program (HTPCP) is a SPRANS initiative that has been developed by MCHB in collaboration with the American Academy of Pediatrics to stimulate innovative children's health care efforts at the community level. HTPCP will assist children and their families in achieving their full developmental potential through a community-based partnership of pediatric resources and community leaders. The initiative is designed to improve access to quality health care for the Nation's medically needy women, infants, children, adolescents, and children with special health care needs (disabilities) and to reduce the long-term cost of care through health promotion, disease prevention, and early intervention techniques.

Demonstration Projects for Pregnant and Postpartum Women and Their Infants. Increasing attention in recent years has been focused on both the medical and non-medical problems relating to alcohol and other drug use among women of childbearing age. To avoid duplication of effort and concentrate limited resources to maximize their impact, the Center for Substance Abuse Prevention (CSAP) of SAMHSA, and MCHB (through SPRANS), have for the past 3 years jointly funded this demonstration program.

Through a series of interagency agreements that have pooled program appropriations, personnel, and related expertise, a cooperative network of 144 service demonstration projects, supported by regionalized research and information centers, has evolved. The demonstration projects have developed more effective and comprehensive treatment interventions for women of childbearing age who use or are at risk for abusing alcohol, tobacco or other drugs. Several projects have directed special attention to the needs of intravenous drug users and the severe health consequences of shared needles (i.e., HIV/AIDS and hepatitis infections).

Community Integrated Service Systems (CISS). An expansion of the one-stop shopping initiative has been incorporated as part of the Community Integrated Service System (CISS) program, a new set-aside activity that was legislatively mandated by OBRA '89 and activated when Title V annual appropriations exceeded $600 million during FY 1992. The CISS program seeks to reduce infant mortality and improve the health of mothers and children, including those living in rural areas and those having special health care needs. This program is designed to complement the Federal Healthy Start initiative and State system development efforts by making funds available for services integration through use of one or more of six specified strategies that focus on home visiting activities; provider participation in publicly funded programs; one-stop shopping service integration projects; not-for-profit hospitals, community-based initiatives; maternal and child health projects serving rural populations; and less restrictive alternatives (including day care services) to inpatient institutional care for children with special health care needs. Four-year awards were made to 32 projects during FY 1992, a majority of which focused on home visiting activities and one-stop shopping services integration.

Child Health System Grants. MCHB is also funding a number of multi-year SPRANS grants to foster the development of family-centered, coordinated, culturally competent, comprehensive systems of primary health care and related services for all children within a designated age range and who live in a defined community. These grants aim to assist communities to combine public and private resources into coordinated systems that assure all families access to comprehensive services and continuity of care for their children.

Pediatrics AIDS. The Pediatric AIDS Health Care Demonstration grants were awarded for the first time in 1988. There are currently 45 projects funded in 18 States, the District of Columbia, and Puerto Rico that seek to demonstrate more effective ways to prevent infection, especially through perinatal transmission. In addition, the grants support the development of community-based, family-centered, coordinated services for HIV-infected infants, children, adolescents, and their families. The Pediatrics AIDS Demonstration projects also aim to develop programs to reduce the spread of HIV infection to vulnerable populations, especially adolescents and minorities.

Health and Safety in Child Care Settings. In 1987, a collaborative project, developed by APHA and AAP, was funded by MCHB to develop the document *Caring for Our Children—National Health and Safety Performance Standards; Guidelines for Out-of-Home Child Care Programs.* The standards represent the con-

sensus of many people regarding good practice in child care. The standards should be used to plan and to establish a quality program of child care. They have been distributed to all State health and licensing departments and key child care agencies and programs. MCHB has awarded 5 grants that support 10 States in implementing these standards and in establishing a National Resource Center for Health and Safety in Child Care [illegible] National Center for Education in Maternal and Child Health, Georgetown University. The mission of the Center is to support State health and licensing agencies, child care providers, child care health professionals, parents, and child advocates in their efforts to promote health and safety in child care settings.

Minority Adolescent Health Program. MCHB has established a program to address critical health issues that place minority children and youth at high risk for persistent school failure, familial estrangement, injury, violence, homicide, stress related illness, and other psychosocial problems. The Bureau's Adolescent Health Program was developed following [illegible] to examine the relationship between morbidity/mortality, health [illegible] American males face. Its scope was subsequently broadened to permit the development of a specialized project to serve incarcerated minority females, their infants and children.

The SPRANS [illegible] ment, expand, and replicate institutional or community-based, comprehensive, primary care, preventive programs for African American male children and adolescents and incarcerated, young Hispanic and African American adolescent women. [illegible] minority community and commitment to the special health needs of minority youth. The projects stimulate development and use of coalitions between communities, institutions of higher learning, social service agencies, and health and correctional facilities.

Injury Prevention. MCHB has worked since 1979 to assist the States to develop and implement injury prevention interventions. Thirty-three demonstration and implementation [illegible] In FY 1992, six cooperative agreements were awarded called The Children's Safety Network, to provide technical assistance to States and others in child and [illegible] and address all aspects of child and adolescent injury prevention. The other four sites are issue-specific, covering rural injury prevention, third-party payor prevention efforts, adolescent violence prevention, and injury data.

Emergency Medical Services for Children. The Emergency Medical Services for Children (EMSC) grant program, [illegible] has funded 51 States to implementation activities to improve the system of emergency care for children. Emergency care is viewed as a continuum that includes prevention, pre-hospital and hospital acute care, rehabilitation, and return to the community. As a result of this program, models have been developed for treatment and triage protocols, curricula for pre-hospital personnel first responders, emergency department staff, parents and caretakers, and standards for designating specialized pediatric facilities and emergency departments with capacity for pediatric care.

BUREAU OF HEALTH PROFESSIONS (BHPr)

The Bureau of Health Professions provides leadership to improve the training, distribution, utilization, and quality of personnel required to staff the Nation's health care delivery system. A number of BHPr grant programs provide support to educational programs for physicians, nurses, dentists, allied health personnel, health administrators, and public health professionals. High priority issues in health promotion and disease prevention are regularly targeted for support.

BHPr Prevention Highlights

Health Education Training Centers (HETCs). Health education and disease prevention are components of the Health Education and Training Center Program. A total of $3.8 million was awarded to support 13 HETCs in 12 States to encourage health promotion and disease prevention in public health education and in the training of health professionals, allied health personnel, and community health workers.

Area Health Education Centers (AHECs). The AHEC program employs educational system incentives to attract and retain health care personnel in shortage areas. By linking the [illegible] resources of the university health science center with local planning, educational, and clinical resources, the AHEC program establishes a network of health-related institutions to provide educational services to students, faculty, and [illegible] In FY 1992, five projects with health promotion and disease prevention components were awarded $343,790 under AHEC special initiatives.

Education and Training Centers (ETCs). BHPr also supports 17 regional AIDS Education and Training Centers that educate health care professionals in prevention, diagnosis, and care of individuals with HIV infection. ETCs train primary care providers to incorporate HIV prevention strategies [illegible] clinical practice, including diagnosis, counseling, and care of HIV-infected persons and their families. Through short courses, clinical training, workshops, and teleconferences and with videotape, computer-based, and printed materials, ETCs provide health personnel with the latest information on HIV care as well as referrals on complex problems. ETCs serve 50 States, the District of Columbia, Puerto Rico, and the Virgin Islands. In FY 1992, approximately $16.6 million was available to support ETC activities.

Nurse Practitioner and Nurse-Midwifery Program. There are 65 programs that prepare nurses for expanded roles in primary health care as family, pediatric, adult, gerontological, women's health, obstetric/gynecological, occupational health, and school nurse practitioners. Of these, 13 focus on rural health care and 20 prepare nurse-midwives. The Advanced Nurse Education Program funded 17 projects to prepare nurses to focus on the prevention of illness and the promotion and restoration of health. The Special Project Grants Program funded 12 health promotion and disease prevention demonstration sites, including nursing primary care clinics, community-based centers, and nursing centers for the homeless.

Preventive Medicine Residency Program. In FY 1992, 13 grants totaled approximately $1.6 million to medical and public health schools to provide partial support for 98 residents.

Geriatric Education Center (GEC) grants. In FY 1992, 27 programs were funded to encourage health professions' faculty to include more geriatric content in basic and continuing professional education. In addition, 16 faculty training projects in geriatric medicine and dentistry provide fellowship support for junior and mid-career faculty preparing for academic careers in geriatrics. The 1992 Summer Geriatric Institute of the Missouri Gateway GEC, for example, provided 3 days of interdisciplinary programming for 350 health care professionals on the topic of Healthy Older People 2000. The Pacific GEC conducted a 1992 workshop for nurses on HEALTHY PEOPLE 2000 and the Oregon GEC had a summer 1993 conference on health promotion and aging. The Stanford GEC, a pioneer in the area of ethnogeriatrics, addresses health conditions for which African American, Hispanic, Asian American, and Native American elders are at especially high risk.

Allied Health Project Grants. Since FY 1990, 28 grants were funded; 11 were newly funded in FY 1992. These grants are awarded to assist training institutions to develop curriculum units for allied health training programs that emphasize knowledge and practice in the areas of prevention and health promotion, including the HEALTHY PEOPLE 2000 objectives. Approximately 50 percent of the grantees have also developed innovative models to identify and recruit minority and disadvantaged students into the allied health professions.

Public Health Special Projects Program. Of the 22 continuing Public Health Special Projects, 15 link academic and practice, 14 recruit minorities, 13 address public health occupational shortages (e.g., epidemiologist, environmental health professional), and 7 offer continuing education.

Advanced General Dentistry Program. Emphasis is given to health promotion and preventive dentistry activities, targeted to special population groups that include the elderly and disabled.

Ryan White HIV/AIDS Dental Reimbursement Program. The program reimburses accredited dental schools and postdoctoral dental programs for the documented uncompensated costs they have incurred for providing oral health treatment to HIV-infected patients.

The Secretary's Award for Innovations in Health Promotion and Disease Prevention. In collaboration with the Federation of Associations of Schools of the Health Professions and its member professional associations, the 10th annual competition, for the academic year 1992, called for innovative proposals to address one or more of the priorities outlined in HEALTHY PEOPLE 2000. First prize was awarded to two York College of Pennsylvania nursing students for their proposal for "Breast Self-Examination for Visually Impaired Women." Two proposals tied for second place: "Cervical Cancer Prevention Project in the Inner City Communities of Roxbury and Jamaica Plain, Massachusetts" and "Teen Peer Outreach/Street Work Project: HIV Prevention Education for Runaway and Homeless Youth." Third place in the contest was awarded to a proposal for "The Rush Prenatal Program at St. Basil's Free Peoples Clinic: Personal Learning and Development through Active Community Service."

Eighth Report to the President and Congress on the Status of Health Personnel in the United States. The report includes a section on the public health personnel needed for meeting the HEALTHY PEOPLE 2000 objectives.

BUREAU OF HEALTH RESOURCES DEVELOPMENT (BHRD)

The Bureau of Health Resources Development implements and administers Federal policy and programs for (1) providing uncompensated health care services to the medically indigent; (2) providing financial analysis and technical assistance for the modernization and replacement of needed health care facilities; (3) providing grants and contracts to increase the number of organ donors; (4) monitoring contracts for operation of the national organ procurement and transplantation network, and the scientific registry of transplant recipients; (5) providing emergency assistance to localities that are disproportionately affected by the HIV epidemic and to States for the delivery of essential services to individuals and families with HIV disease under Titles I and II of the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act.; and (6) providing trauma care financial assistance to States to improve State plans for the provision of emergency services and to rural areas for research and demonstration projects to improve the availability and quality of emergency medical care.

BHRD Prevention Highlights

Organ Transplantation. The organ transplantation program supports a national organ procurement system to assure organ availability for patients needing transplants. This includes grants and contracts to increase the rates of organ donation, a contract for the Organ Procurement and Transplantation Network patient registration data base used to allocate organs as they become available, and a contract for a Scientific Registry for Transplant Recipients, which is a registry of demographic and clinical information on all transplant recipients. In FY 1992, grants totaling $401,000 were awarded to support such activities as: educating black clergy about organ donation and transplantation; increasing the awareness of organ donation among health professional students; and identifying physician and family factors that influence the consent process in pediatric organ donation. In FY 1993, the focus of the program shifted to research projects that can lead to gains in organ donation. The Bureau anticipates awarding 4 to 5 grants totaling approximately $350,000.

Studies on organ transplantation have shown that African Americans wait longer for organs than white Americans. A contract for a study entitled "Reasons African American and White Waiting List Patients Are Unavailable for an Organ Offer" will be awarded in the 4th quarter of FY 1993 to determine the extent of the problem and to develop solutions.

Trauma Care. The Trauma Care Systems Planning and Development Act of 1990, Title XII of the Public Health Service

[illegible] grant program to States for the development, implementation, and improvement of trauma care systems. The Act also establishes a grant program to rural areas for the improvement of trauma services, and provided for the creation of a National Advisory Council on Trauma Care Systems. A draft Model Trauma Care Systems Plan has been developed for use by States as a guide in the development of their own trauma care plans. The plan identifies 14 required components of a trauma care system, and establishes the concept of an inclusive trauma care system, which matches the resources of trauma care providers to the needs of injured patients.

In FY 1992, 23 State projects were awarded $3.9 million in grants for trauma care planning activities. Five rural projects totaling $489,400 were also funded in FY 1992. A violence prevention initiative contract was funded to evaluate the impact of a program to teach seventh graders in the Washington, DC school system about alternatives to violent behaviors. FY 1993 funding will include State grants at a level of $3.46 million, and rural project funding at $432,600.

HIV Services. Titles I and II of the Ryan White Comprehensive AIDS Resources Emergency (CARE) Act of 1990 provide emergency assistance to localities disproportionately affected by the HIV [illegible] AIDS cases and financial assistance to States or other public or private nonprofit entities for the delivery of services to individuals and families with HIV disease.

The **Title I Ryan White CARE Act** requires grant recipient cities to address barriers to HIV health care services for several special populations, including gay men of color. During 1993, the grantees will plan programs to reduce these barriers [illegible] FY 1992 to 18 eligible metropolitan areas (EMAs). Approximately 74 percent of the funds were used to support four major program areas: primary care, support services, case management, and AIDS drug treatments. In FY 1993, $184.8 million was awarded to 25 EMAs.

Under Title II, $95.1 million was awarded to the States and U.S. Territories in FY 1992. States and Territories were involved in the following 4 authorized program areas: 41 supported HIV care consortia; 54 provided AIDS/HIV drug treatments, 25 supported home and community-based care, and 16 allocated funds for the continuation of health insurance coverage. In FY 1993, $115.3 million was awarded to States and U.S. Territories.

Up to 10 percent of the Title II funds is set aside for Special Projects of National Significance (SPNS), which contribute to the advancement of knowledge and skills in the delivery of health and support services to persons with HIV infection. In FY 1992, $5.7 million was awarded for 26 SPNS continuation grants to State, local, or tribal health, mental health, or substance abuse departments; public or private hospitals; community-based service organizations; institutions of higher education; and national organizations for service providers. Grant awards are based on the need to assess the effectiveness of a particular model of care, the innovative nature of the project, and the project's potential to be replicated. In FY 1993, $5.5 million was awarded for 25 SPNS continuation grants. Approximately $750,000 will be awarded to 4 to 6 new projects focusing on care for adolescents at high risk of HIV infection.

OFFICE OF RURAL HEALTH POLICY (ORHP)

The Office of Rural Health Policy coordinates rural health research activities within DHHS and administers a grant program for Rural Health Research Centers, which collect information and conduct applied research on rural health care issues. The Office also administers grant programs supporting the development of State offices of rural health and outreach grant programs. In addition, the Office advises the Secretary on how the Medicare and Medicaid programs affect access to health care for rural populations.

ORHP Prevention Highlights

Rural Health Outreach Program. In 1991, the first 100 Rural Health Outreach Demonstration Grants were awarded to rural communities with innovative new strategies for delivering essential health care services. In 1992, an additional 27 new grants were awarded. Under this program, grantees form partnerships or consortia with other local institutions, such as public health departments, hospitals, tribal organizations, or schools, to reach residents in need of health care. Grantees are awarded up to 3 years of funding. The program allows rural communities the latitude to create tailored solutions to their health care problems. Some projects have delivered preventive care to children in schools, others have used telecommunications to bring mental health services to isolated areas, and still others have supported rural EMS teams with additional training and equipment.

Indian Health Service (IHS)

The Indian Health Service assists Indian tribes in developing the capacity to staff and manage health programs for American Indians (AI) and Alaska Natives (AN) through activities that include health and management training, technical assistance, and human resource development. It also helps Indian tribes to coordinate health planning; obtain and use health resources available through Federal, State, and local programs; design and operate comprehensive health care services, including hospital and ambulatory medical care and preventive and rehabilitative services; and develop community sanitation facilities for American Indians.

IHS provides health care for approximately 1.8 million American Indians and Alaska Natives through a network of 43 hospitals, 66 health centers, 4 school health centers, and more than 51 health stations and other treatment locations. The tribal health delivery systems administered by tribes and tribal groups, under contracts with IHS, operate 58 service units, 7 hospitals, 89 health centers, 3 school health centers, and 237

smaller health stations and Alaska village clinics. IHS emphasizes prevention through research, dissemination of information, and delivery of preventive services. The most dramatic evidence of the impact of these efforts has been an increase in expected lifespan for Indians of both sexes. Life expectancy at birth for American Indians has increased from 51 years in 1939–1941 to 71.1 years in 1979–1981. However, AI/AN life expectancy is still 3.3 years less than the 1980 figure of 74.4 for the U.S. white population.

Each IHS area office has developed health promotion/disease prevention objectives. In FY 1991, IHS began including the HEALTHY PEOPLE 2000 objectives in its organizational framework.

Another innovation that underscores IHS's commitment to prevention is the strategic use of health indicators in the allocation of resources to support programs. The current allocation strategy employs years of potential life lost as a crucial variable in assessing regional resource requirements. The funds apportioned under this method are targeted at the prevention of those diseases contributing most to the years of potential life lost in a given population.

Highlighted below are various broad-scale prevention efforts. Not listed are the multitude of unique community-based efforts in fitness, mental health, nutrition, education, and geriatric prevention efforts. Indeed, IHS experience reveals that the strength in prevention efforts rests with community energy in identifying and addressing local prevention needs.

IHS Prevention Highlights

Maternal and Child Health Activities. Maternal and Child Health (MCH) Program activities in IHS have an impact on a major proportion of the AI/AN population. Approximately 44 percent of the AI/AN population is under 20 years of age and 13 percent are women of childbearing age. IHS MCH activities include women's preventive health services, perinatal health care, prenatal/post partum care, and health care services for infants and children.

The IHS MCH program has successfully used medical technology in remote settings, built effective systems for safe water supply and waste disposal, and used vaccines and antibiotics to prevent diseases.

For the past 10 years, AI/AN maternal mortality has changed very little and continues to be above the U.S. all races rate. Approximately 20 percent of AI/AN births are to women less than 20 years of age. Based on studies conducted in selected IHS areas, fetal alcohol syndrome (FAS) appears to be well above the rates estimated for other populations in the United States. Other MCH health issues include family dysfunction leading to child abuse and neglect and adolescent risk behaviors resulting in alcohol and substance abuse, premature sexual activity, and intentional and unintentional injuries.

The IHS MCH program is challenged by these complex health issues and gives special attention to the development of the following program activities:

Immunization. IHS continues with an immunization initiative that maintains an immunization level of 85 to 90 percent among AI/AN children age 3 to 27 months. Efforts are being made to expand the immunization initiative to include new vaccines, *Haemophilus influenzae* type B and hepatitis B, and a second dose of measles vaccine, as well as expanding immunization surveillance of older children.

Infant Mortality Reduction. In collaboration with the American Academy of Pediatrics and other Federal agencies, studies of the epidemiology and risk factors of SIDS among American Indians and Native Alaskan are also being initiated.

Fetal Alcohol Syndrome. IHS funds FAS prevention research activities at the University of Washington. Through an interagency agreement with CDC, IHS collaborates in establishing FAS surveillance in several high-risk IHS areas. To increase levels of community and professional awareness and expertise, IHS established a technical assistance and consultation team in its Headquarters-West office.

Child Abuse and Neglect. IHS collaborates with the Bureau of Indian Affairs (BIA) in the establishment of multidisciplinary child protection teams in each IHS area and service unit. At the headquarters level, IHS and BIA cooperate in the development and implementation of child abuse policy and tribal leadership and professional training programs. Recent Indian Child Protection legislation, Public Law 101- 630, Title IV, establishes a Child Abuse Treatment Grant Program that will be administered by IHS.

Adolescent Health. IHS funds 14 tribal grants for community-based, school-associated teen centers. These centers provide a variety of health promotion and disease prevention services that are environmentally suitable to the unique needs of adolescents. The ultimate indicators of the success of these programs will be higher self-esteem and fewer risk-taking behaviors among the teens being served by these programs.

Children With Special Needs. The IHS MCH program also provides direction for two special programs: the Indian Children's Program, a program for children with disabilities and developmental delay, and the Head Start Intra-agency Agreement, a program that provides medical, nutritional, dental, and mental health technical assistance to Indian Head Start Programs.

Community Injury Control. The injury prevention program in IHS Health has expanded considerably. Public awareness of the program grew with the 8th Annual American Indian and Alaska Native Injury Campaign, which was conducted during FY 1990. IHS initiated an injury prevention fellowship in FY 1987. Over 75 fellows have graduated from this program. The focus of the program is to develop specialists in this area and to promote community analysis and prevention in injury prevention programming. Each fellow works with a community project during training.

Injury prevention continues to be a part of the IHS promotion/disease prevention goals; through outreach to other agencies, a variety of injury control activities have been funded. Of particular interest is an interagency agreement with CDC that was negotiated in August 1985. The purpose of this agreement is to develop model community-based injury control programs in sites around Indian reservations. Major progress has been identified in surveillance and program intervention through this agreement.

Smoke-Free Environments. IHS has been a PHS role model in the establishment of smoke-free environments. A major IHS [illegible] in FY 1985 was the establishment of smoke-free environments. Since then, all IHS hospitals, clinics, and offices have become smoke-free. In addition, the IHS Alcohol and Substance Abuse Branch has mandated that all IHS-funded substance abuse facilities will be tobacco-free (i.e., the exclusion of cigarette smoking and tobacco chewing) by January 1993. These efforts have received support and recognition from a variety of national entities, including the American Cancer Society, the American Lung Association, and the National Cancer Institute.

Health Education. IHS continues working with CDC and State education agencies to develop the capacity for Indian schools and community-based school boards to promote comprehensive school health education. The IHS Education Program maintains and coordinates a comprehensive school health education project, which includes information on HIV/AIDS [illegible] and communication.

Fluoridation and Other Oral Health Activities. During [illegible] since 1982, the number and proportion of water systems needing fluoridation, having equipment installed, and reporting fluoridation activity has steadily increased. In 1982, [illegible] 51 [illegible] communities that adjusted fluoride to optimum levels. In 1990, there were 435 community water systems that had optimum fluoridation. While IHS has placed a high priority on enhancing efforts in community and school water fluoridation, there are locations where IHS has encouraged the use of supplemental fluoride tablets or drops and the initiation of school-based fluoride mouth rinse programs as adjuncts to or as a next-best substitute for community water fluoridation. Clinical [illegible] dental sealants.

In 1984, intervention efforts were begun to reduce the prevalence of baby bottle tooth decay, a condition that affects 50 percent of Indian children. This national interdisciplinary campaign targets the caretakers of young children, since only by their actions can baby bottle tooth decay be prevented.

High smokeless tobacco use among Indian youths and adolescents is [illegible] through a number of participations in IHS and State programs to prevent tobacco [illegible] smokeless tobacco use and to promote the cessation among users. In January 1991, IHS began to develop and test [illegible] the use of smokeless tobacco [illegible] Alaska Native youth. Once the materials are developed and tested, they will be used on a national basis.

Because of the high prevalence of periodontal disease in the Native American population, the IHS Dental Program established a task force to review the problem and identify public health oriented solutions. A draft report of recommendations for implementing a periodontal prevention and control program with a public health approach is being circulated for comment. The dental program is also training a public health oriented periodontist who will coordinate the IHS periodontal disease prevention effort at the national level.

In 1991, IHS began drafting a 5-year plan to guide the program toward the year 2000 objectives during the period 1991–1995.

Substance Abuse Program. In 1978, the Indian Health Care Improvement Act required IHS to assume responsibility for support of AI/AN programs from NIAAA. Presently, IHS is funding over 360 AI/AN alcoholism programs serving Indian reservations and urban communities. Enhanced training of health providers in early recognition and secondary prevention is a critical activity of the substance abuse effort. This training, undertaken in cooperation with NIAAA, is being provided through a primary provider training package in substance abuse management and prevention. Ninety percent of IHS-funded tribal alcohol programs offer prevention services with an emphasis on youth.

The Secretary's initiatives on alcoholism and the Omnibus Drug Act have stimulated a major expansion of activity in collaboration with PHS agencies, BIA, and tribes. The Coordinated Discretionary Grant Programs of PHS agencies have been used to fund demonstration prevention projects in many Indian communities; IHS has funded 10 health promotion/disease prevention projects and 2 health promotion evaluation projects; it also has provided training in alcoholism and substance abuse prevention to over 5,000 tribal, IHS, and BIA personnel. Community-based alcohol and substance abuse training sessions have been provided to over 18,000 participants, and over 57,000 students have participated in school-based training. Six of the 12 IHS areas are currently operating residential treatment centers. The remaining areas are providing contracted services to address this need.

National Institutes of Health (NIH)

The National Institutes of Health administers a comprehensive research program to improve the health of the American people through acquisition of new knowledge of disease. NIH is a federation of institutes, centers, and divisions that includes 17 Institutes of Health, each with its own medical focus, and the National Library of Medicine, Clinical Center (a hospital research unit), and Fogarty International Center. The NIH Coordinating Committee for Disease Prevention and Health Promotion provides the primary linkage between the Office of the Director, NIH, and the 17 institutes. It is also responsible for analyzing, coordinating, and identifying research opportunities in disease prevention and health promotion. NIH prevention research has as its objective both protection of people from disease and prevention of the progression of disease to disability or early death.

The NIH prevention activities are presented here by NIH component. Although not mentioned specifically in this summary of activities, a number of the institutes support national information clearinghouses that serve as central resources for their specific components of health by responding to requests for information and educational materials; several institutes organize consensus development conferences to enable health professionals to address new research findings; and all of the institutes publish information about their particular domain of health for both professionals and the public at large.

FOGARTY INTERNATIONAL CENTER (FIC)

Programs of the Fogarty International Center (FIC) support the international research components of the categorical institutes, as well as FIC's research and training program activities to foster and promote international cooperation in all fields of the biomedical and behavioral sciences.

FIC Prevention Highlights

Trans-NIH International Activities in Prevention. The FIC provides oversight of NIH participation in 83 bilateral agreements with 40 countries to foster biomedical and behavioral research cooperation that may include prevention and prevention-related activities.

The FIC's regional initiatives in Central and Eastern Europe (including the former Soviet Union) and Latin America and the Caribbean (LACI) continued to promote the development of new and expanded research collaboration between scientists in these regions and U.S. scientists. Under the LACI, FIC supported the initiation of new studies relevant to the prevention of diabetes, cystic fibrosis, cancer, and growth deficiencies in the United States and Chile.

In FY 1992, FIC was redesignated for its third 5-year period as the WHO Collaborating Center for Research and Training in Biomedicine. In this role, the FIC widely disseminates information on opportunities for international collaboration in NIH prevention and other programs.

Research Fellowship Programs. FIC supported the following prevention-related activities:

- Working with scientists at the University of Cincinnati, a Fellow from Poland evaluated the effects of alcohol on hormone-stimulated growth in an animal model. The results indicated that alcohol administration to pregnant females depressed growth hormone and significantly lowers body and brain weight in the offspring when compared to controls. The inhibitory effects of ethanol on growth hormone-dependent development may play a role in growth retardation seen in children born to mothers who consume alcohol to excess;
- Researchers at the Johns Hopkins School of Hygiene and Public Health, in collaboration with a Fellow from Helsinki, Finland, have shown that vaccination with Hemophilus influenza type B vaccine prevented meningitis in Navaho infants and children in Arizona. Vaccination reduced the number of healthy subjects who carried the bacteria in the throat. Such infant carriers are a potential source of transmission of infection to others;
- Scientists at the University of North Carolina, in collaboration with a research fellow from the University of Louvain in Belgium, have begun to define the mechanism by which the body adapts to a diet low in total calories or protein. Using an animal model, their studies show that nutrients can affect the production, removal, and action of a protein factor that influences growth hormone.

AIDS International Training and Research Program. In its first 4 years, FIC grants to 11 U.S. institutions, which then select participating scientists, provided training related to the understanding and control of AIDS to 500 health professionals. The AITRP also provided more than 200 training courses for over 12,000 professionals to increase the number of skilled scientists in developing countries who can contribute to international trials of candidate HIV/AIDS vaccines.

The program also supported research in such key areas as pediatric AIDS, HIV infection among women, and new ways to prevent and treat AIDS-related opportunistic infections. Special efforts continue to be made by FIC to coordinate with NIAID-supported international AIDS research, particularly when related to vaccines.

A Fogarty-trained graduate from the program at the University of California—Los Angeles (UCLA) completed a study of the prevalence of HIV infection among new TB cases in Chiang Mai, Thailand. He demonstrated that TB is a major manifestation of HIV infection in Thailand, suggesting that it is appropriate to evaluate new cases of TB, especially in individuals under 35 years of age, for HIV infection. Fogarty trainees at University of California at Berkeley are studying the response to anti-TB therapy among HIV-infected and uninfected children with tuberculosis and the use of PPD skin tests to predict HIV infection in the Dominican Republic; another trainee is studying drug resistance patterns of *M. Tuberculosis* recovered from AIDS patients in Brazil.

A Fogarty post doctoral fellow from Zambia, working at the University of Miami, contributed critical data to an International Registry of HIV-exposed Twins. This pioneering study involved 40 investigators from 9 countries and concluded that HIV-1 infection is more common in first compared to second born twins. The data indicate that a substantial proportion of HIV-1 transmission takes place during birth, which suggests that measures can be taken prior to birth to reduce the risk of HIV transmission from mother to child.

Fogarty International Research Collaborative Awards. A study team from NIA and NCI visited Italy, Poland, and the Czech and Slovak Federal Republic to examine "Implications of Tumor Registry Data for Developing Etiologic and Clinical Insights on Aging and Cancer."

The collaborative study was focused on individuation of the cardiac inotropic status by agency of the systolic time intervals. Its purpose was the development of methods and instrumentation for accurate evaluation of sympathetic and vagal status in patients and normal individuals. Software was developed to detect and measure R wave-carotid incisura interval at millisecond levels in clinical, psychophysiological, and exercise settings. This research will benefit cardiac patients and infants with respiratory sinus arrhythmia.

The FIC supported two Russian scientists in a program dealing with prevention of infectious and non-infectious diseases, including AIDS, tuberculosis, cancer, and heart disease.

Scholar-in-Residence. Projects included the development of methods to block nuclear penetration of viral DNA and prevent viral infections; the feasibility of gene therapy to ameliorate or prevent the leukemia associated with Down syndrome; studies of the molecular basis of HIV pathogenesis as a rational basis for the prevention of AIDS; the development of a unique bacteriophage vector-based vaccine against AIDS; an evaluation of the ability of Mammary-Derived Growth Inhibitor to block the proliferation of breast cancer cells; and research on the transport of ions and water through ocular membranes and its relevance to the prevention and treatment of glaucoma.

NATIONAL CANCER INSTITUTE (NCI)

The National Cancer Institute (NCI) conducts research on [illegible] toring of the incidence, mortality, and morbidity of cancer. A priority for NCI is the translation of the knowledge gained from its research into application through technology transfer and health promotion activities for the benefit of the public. The goal of these efforts in general is to achieve significant reductions in cancer incidence, mortality, and morbidity with a [illegible]

NCI Prevention Highlights

Chemoprevention. The goal of chemoprevention is to inhibit [illegible] tional, or endocrinologic intervention prior to the clinical ap- [illegible] vides a useful complement to therapeutic modalities in current clinical use, and may be particularly useful in the control of cancer in tissues for which therapeutic intervention is relatively ineffective. Studies conducted in experimental animal models for human cancer have demonstrated that carcinogenesis in a number of tissues is subject to inhibition through the administration of biological or chemical agents. Anticarcinogenic activity has been demonstrated for a highly diverse group of biological and chemical agents. (i.e., oltipraz, quinacrine). Research in chemoprevention includes laboratory and clinical studies of chemoprevention agents, clinical nutrition studies, and epidemiological studies. Three agent classes is significantly advanced in clinical trials and are considered the first genera- [illegible] retinoids (natural and synthetic analogues of vitamin A), (nine studies), beta-carotene (seven studies), and calcium compounds (three studies). In addition, a second generation of six promis- [illegible] teroidal anti-inflammatory agents such as piroxicam and ibuprofen, antiparasitic agents such as oltipraz (a dithiolthione); inhibitors of polyamine biosynthesis such as difluoromethylornithine, glycyrrhetinic acid, and N-acetylcysteine.

Diet and Cancer. NCI is conducting a wide variety of dietary studies. A randomized, double-blind clinical trial is evaluating the efficacy of the nutritional supplements beta-carotene, vitamin C, and vitamin E in preventing neoplastic polyps of the large bowel in persons at high risk for this condition. Another group of investigators has initiated a randomized trial to evaluate the role of dietary fiber and calcium in subjects at elevated risk for developing colon cancer. Other research studies are investigating the relationships between the carcinogenic process and steroid hormone metabolism, alcohol, dietary protein, and selenium. In addition, NCI is conducting a 3-year feasibility study to develop methods for achieving dietary change among minority and less educated women. The overall goal of this program is to determine whether a low-fat dietary pattern, with a corresponding high level of fruit and vegetable intake, can decrease the incidence of cancer in postmenopausal women. To stimulate collaborative research between nutritional science and basic and clinical research, NCI is sponsoring new interactive project grants for nutrition and cancer prevention.

National 5-A-Day Program. The National 5-A-Day Program, designed to encourage Americans to eat five or more servings of fruits and vegetables every day, was begun during FY 1992. This program is a joint project of the NCI and the Produce for Better Health Foundation (PBHF) and is the largest public private enterprise ever undertaken by the NCI. Over the next 5 years, the National 5-A-Day Program will encourage all Americans to eat five servings or more of fruits and vegetables a day as part of a low-fat, high-fiber diet; award 4-year research grants to evaluate the effect of 5-A-Day activities in schools, workplaces, and other community settings; and work with PBHF, which represents more than 200 food retailer organizations and more than 30,000 supermarkets, to promote the program's message in the marketplace.

Smoking and Cancer. The Community Intervention Trial (COMMIT) for Smoking Cessation is the largest smoking intervention study in the world, involving some 2 million people directly, and millions more indirectly. The COMMIT design involves 11 pairs of communities in North America that are matched in size, demographics, and location. The primary hypothesis being tested is that the implementation of a defined intervention protocol, delivered through multiple [illegible] groups and organizations and using limited external resources, will result in a quit rate in heavy smokers at least 10 percentage points greater than that observed in comparison communities. COMMIT is serving as a major natural laboratory for the study of community-wide smoking cessation and control efforts. The field work of this trial was completed in early 1993 and is being followed by data analysis. On completion of the trial, materials will be available through American Stop Smoking Intervention Study (ASSIST) for Cancer Prevention.

ASSIST represents a collaborative effort between NCI and the American Cancer Society, along with State and local health departments and other voluntary organizations to develop comprehensive tobacco control programs in 17 States. Its purpose is to demonstrate that the widespread, coordinated application of the best available strategies to prevent and con- [illegible] use will significantly accelerate the current downward trend in smoking and tobacco use. Populations whose smoking prevalence rates remain a problem will be targeted in ASSIST intervention sites. ASSIST is a community-based intervention directed by local voluntary coalitions that will plan and implement tobacco control activities in schools, worksites, and other community channels. Specific interventions include training health care providers to deliver brief cessation counseling, implementing smoke-free policies in schools and worksites, and enhancing media coverage of tobacco use issues. ASSIST will reach 71 million Americans, including 18 million smokers. More than 4.5 million adults are expected to quit smoking and 2 million adolescents will be prevented from becoming addicted. Overall, it is expected that 1.2 million premature deaths will be averted, including 422,000 deaths from lung cancer.

Worksite Studies. The workplace is an obvious channel for cancer control activities aimed both at reducing occupational exposures and modifying unhealthy lifestyle choices. Research is underway to explore the potential of the worksite to improve a broad set of cancer prevention and control behaviors. The Working Well cooperative agreement is a large, Phase

III project involving 4 research centers, a coordinating center, and 120 randomized worksites throughout the United States. The project is designed to determine whether effective worksite-based intervention methods to reduce tobacco use, achieve cancer preventive dietary modifications, increase screening prevalence, and reduce occupational exposures can be developed and implemented in a cost-effective manner. Smaller worksite-based projects will develop mechanisms to assist worksite wellness managers to choose appropriate cancer control materials and develop interactive computer-based nutrition self-help programs.

Screening Trial for Prostate, Lung, Colorectal, and Ovarian Cancers. In this 16-year randomized trial, 37,000 men will be screened for 4 years for prostate, lung, and colorectal cancers, and 37,000 women will be screened for the same period of time for lung, colorectal, and ovarian cancers. Equal numbers of men and women will be followed with routine medical care as controls. There will be a 10-year follow-up of both study subjects and controls to determine the effects of screening for those four cancer sites on mortality. Studies will be conducted using diagnostic biopsy specimens in relating genetic aberrations to these cancers.

Breast Cancer Prevention Trial with Tamoxifen. The Breast Cancer Prevention Trial was implemented in 1992 by the National Surgical Adjuvant Breast and Bowel Project. The study is testing the ability of tamoxifen, an anti-estrogen medication used in post surgical treatment of early stage breast cancer, to prevent the development of breast cancer in women at increased risk for developing the disease. Based on results from treatment clinical trials in which tamoxifen reduced the incidence of breast cancer in the opposite breast in women already diagnosed with breast cancer, scientists estimate that tamoxifen has the potential to reduce the incidence rate of breast cancer in high-risk women by at least 30 percent. Approximately 16,000 women at increased risk for breast cancer due to age, family history, and personal history (i.e., age at first birth, age at menarche, and previous breast biopsies) are being randomized to receive tamoxifen (20 mg/day) or placebo for an initial period of 5 years. The total trial will last 10 years.

Prostate Cancer Chemoprevention Trial with Finasteride (Proscar). A prostate cancer chemoprevention trial using finasteride (Proscar) is planned as an intergroup study and will be implemented in the Community Clinical Oncology Program clinical trials network. Prostate cancer is influenced by androgens, particularly in its earliest stages of development. The proposed study will test the hypothesis that reduction of dihydrotestosterone (DHT) will prevent the development of prostate cancer. Finasteride is an inhibitor of DHT synthesis. Finasteride has an excellent toxicity profile and was recently approved by the FDA as an alternative to surgery in the management of benign prostatic hyperplasia. The trial will involve 15,000–20,000 men at risk for prostate cancer. Subjects are randomized to receive finasteride or placebo for up to 10 years. The endpoint of the study will be diagnosis of clinically significant prostate cancer.

Leadership Initiatives in Special Populations. The National Black Leadership Initiative on Cancer (NBLIC) was established to develop coalitions to promote NCI's cancer prevention and control goals, and stimulate the involvement of the African American community in this effort. Among the NBLIC's priorities are the promotion of smoking cessation, diet modification, and early detection screening and treatment. The NBLIC has established over 50 cancer prevention and control coalitions which are helping to implement collaborative efforts among local organizations, institutions, and community leaders throughout the United States. Through those coalitions, the NBLIC is encouraging breast cancer screenings as well as cancer and prevention control activities that link with national health promotion campaigns such as National Minority Cancer Awareness Week, and National Breast Cancer Awareness Month.

The National Hispanic Leadership Initiative on Cancer (NHLIC) was initiated to develop a national outreach program that will address the cancer prevention and control needs within Hispanic communities through the establishment of cancer prevention and control coalitions; stimulate the involvement of Hispanic community leaders in Hispanic community cancer control coalitions; and develop and support cancer control intervention outreach activities in Hispanic communities throughout the United States and Puerto Rico.

The Appalachia Leadership Initiative on Cancer (ALIC), although similar to the NBLIC and the NHLIC, is not race or ethnic group specific. Rather, ALIC is targeted to all persons, particularly those that are medically underserved, that reside in the region of the United States known as Appalachia.

Cancer Control for Native Americans. Intervention research addressing the cancer problem in Native American (American Indian, Alaska Native, and Native Hawaiian) populations is seeking to identify and remedy key factors that contribute to avoidable mortality from specific cancer sites. The Urban Native American Women's Cancer Prevention Project is a study of cervical cancer prevention and treatment among Native American women living in eight metropolitan areas. The study will assess cancer prevention knowledge, attitudes, and behaviors; develop culturally sensitive prevention/intervention strategies; and evaluate the effectiveness and efficacy of those strategies. The Prevention of Cervical Cancer in Native American Women is a health education research project focusing on cancer prevention among two populations of Native Americans, the Cherokee and the Lumbee. The major goal of the study is to increase screening and follow-up for cervical cancer prevention among women age 18 and older who receive Pap smears at appropriate intervals and return for follow-up care when necessary. The Wai'anae Coast Cancer Control Project is testing the effectiveness of an integrated, community-driven, cancer control intervention as a means of increasing breast and cervical cancer screening practices among Native Hawaiian women. The Prevention of Cervical Cancer in Native Alaskan Women project is designed to reduce the morbidity and mortality from invasive cervical cancer in Alaska Native women. At the same time, Primary Prevention of Cancer in Native American Populations is developing innovative tobacco use prevention or cessation intervention programs and determining their long-term effectiveness among Native Americans.

NATIONAL CENTER FOR HUMAN GENOME RESEARCH (NCHGR)

The Human Genome program is a worldwide research effort [illegible] determining the structure of human DNA and determining the location of the estimated 100,000 [illegible] DNA. A set of model organisms will be studied to provide the comparative information necessary for understanding the functioning of [illegible]. NIH and the Department of Energy are the key agencies managing this project in the United States. [illegible] NIH, the Office for Genome Research, reports to the Office of the Director, NIH. It was created on October 1, 1988. One year later, the Office was replaced with the National Center for Human Genome Research (NCHGR).

The NCHGR plans genome project research goals for [illegible] search and research training programs related to attaining these goals, coordinates with other U.S. and foreign agencies engaged in genome research, advises the NIH director and senior staff of the DHHS on progress in genome research, and communicates research advances to the public and scientific community.

In FY 1990, the NCHGR and the Department of Energy issued a joint research plan for the first 5 years of the Human Genome Project. Five-year goals have been identified for the following areas, which together encompass the human genome project:

- Mapping and Sequencing the Human Genome
- Mapping and Sequencing the Genome of Model Organisms
- Data Collection and Distribution
- Ethical, Legal, and Social Considerations
- Research Training
- Technology Development
- Technology Transfer

This project will spawn new research role tools—chromosome maps, DNA sequence information, laboratory technology, and computer data bases—that should form the foundation of 21st-century biomedical science. Knowledge gained from the genome project research will help scientists around the world to understand and eventually treat many of the more than 4,000 genetic diseases that afflict humans. Genome research will also shed light on the mechanisms of the many common but complex diseases, such as heart disease, hypertension, arthritis, cancer, and Alzheimer's disease, in which genetic factors play an important role. Virtually every component of NIH supports genetic research and the results of NCHGR-supported research are expected to facilitate and complement these efforts.

NATIONAL CENTER FOR RESEARCH RESOURCES (NCRR)

The National Center for Research Resources develops and supports critical research technologies for health-related research. NCRR supports shared resources, sophisticated instrumentation and technology, animal models for studies of human disease, clinical research environments, and research capacity building for underrepresented groups.

NCRR Prevention Highlights

Immunogenetic Studies of African Americans. At the Human Immunogenetics Laboratory at Howard University in Washington, DC, scientists are exploring the relationships between disease susceptibility and immunogenetic factors in the African American population. The researchers are characterizing human leukocyte antigens (HLA) and genes that are associated with diseases such as diabetes, arthritis, and cancer. They are also developing reagents and technologies to better characterize HLA types in minority populations.

HLA tissue antigens are cell surface proteins that play a key role in determining whether an organ transplant will be accepted or rejected by the recipient's body. Each individual possesses a unique combination of HLA antigens, and these proteins must be carefully matched between organ donor and recipient to ensure long-term graft acceptance. Tissue typing reagents are prepared largely from the blood sera of white women who have had more than one baby and who, therefore, may have antibodies to the father's HLA antigens. The Howard researchers have been collecting sera from black women, screening it for HLA antibodies, and determining the specificity of the antibodies. This is hoped to help increase the [illegible] success in blacks.

[illegible] research has led to the discovery of how the structure of a particular antigen puts one at risk for a given disease. They have identified an antigen combination, DQw4, DR3, [illegible] to the black population and is associated with resistance to type I diabetes. They have also explored the relationship between the genetic makeup of blacks and whites and the risks of developing myeloma and breast cancer. The researchers are compiling a data base that contains information on the HLA antigens and genes associated with various diseases in African Americans.

Use of Monoclonal Antibody 60.3 to Prevent Hyperacute Cardiac Rejection. Hyperacute cardiac rejection is the unfortunate sequela to cardiac transplantation performed in the presence of cytotoxic antibodies in the host against the donor. Hyperacute rejection humoral immunity plays a dominant role, unlike in allograft acute rejection, where mononuclear cells play a prominent role. Histological examinations of the failed hyperacutely rejected allograft document the presence of leukocytes, platelets, and thrombi. Most commonly used immunosuppressive regimens are largely ineffective in preventing hyperacute rejection. Because of these limitations, researchers at the University of Washington Regional Primate Center are pursuing other lines of investigation to prevent hyperacute rejection in sensitized recipients. They are evaluating whether monoclonal antibody 60.3 will be able to attenuate hyperacute rejection of cardiac allografts when implanted into sensitized recipients.

Measuring Vaccine Efficacy from Epidemics of Acute Infectious Agents. Accurate estimation of field vaccine efficacy is important for designing and evaluating effective infectious disease intervention programs. This is particularly true for many acute viral diseases (e.g., measles, pertussis, influenza) for which vaccination remains the primary means of interven-

tion. Researchers at Emory University have developed mathematical models that estimate the field efficacy of vaccines. They have taken into consideration many epidemiological factors including population structure, duration of the study, the fraction vaccinated, and reduction of exposure to infection through herd immunity. The researchers used VESPERS-11 (Virus Epidemic Simulation Programs for Epidemiological Research Studies) to carry out simulations of a measles epidemic in a closed population. The simulations provided vaccine efficacy estimations (0.354) extremely close to the actual value (0.0350). These models help researchers understand the spread of infectious diseases and help them to determine the most effective methods for preventing that spread.

Low-Dose Estrogen May Reduce Post-Menopausal Cardiac Risks. Low-dose estrogen prescribed for women at menopause to prevent osteoporosis and relieve discomfort has the additional benefit of improving the balance of cholesterol-carrying lipoprotein in the blood. As a result it may help protect older women against their increased risk of heart disease, according to researchers at Harvard Medical School and Brigham and Women's Hospital in Boston, Massachusetts.

Based on clinical studies the Boston investigators found that both the low and the high estrogen doses decreased the average low-density lipoprotein (LDL) cholesterol by 15 and 19 percent, respectively, and increased the "protective" high density lipoprotein (HDL) cholesterol level by 16 and 18 percent. Thus, lower doses of estrogen appear to be as effective as higher doses. Estrogen was also found to increase the production of very-low-density lipoproteins (VLDL) by the liver and its secretion into the blood. However, most of the additional VLDL is apparently cleared directly from the blood without being converted to LDL. At the same time, the catabolism, or breakdown, of LDL is stimulated so that the net result is a lower LDL blood concentration and a higher VLDL concentration.

Throughout their lives, women have a lower incidence than men of cardiovascular disease, although the differences begin to narrow when women reach the 6th decade of life. The diminished estrogen production in menopause and its effects on lipoprotein metabolism apparently push women toward the male risk level at that stage. This finding may encourage more women to take low-dose estrogen. Only 15 to 20 percent of post-menopausal women in the United States receive estrogen replacement therapy.

Affluent Diet Increases Risk of Heart Disease. Over the past 25 years, the Oregon Health Sciences University has characterized the food and nutrient intakes of the Tarahumara Indians in Chihuahua, Mexico, while simultaneously documenting various aspects of their lipid metabolism. The Tarahumaras' agrarian diet consists primarily of pinto beans, tortillas, and pinole (a drink made of ground roasted corn mixed with cold water), with squash and gathered fruits and vegetables and small amounts of game, fish, and eggs. This diet, along with endurance racing, is probably the reason coronary heart disease is virtually non-existent in their culture.

After 5 weeks of consuming the "affluent" diet, (dietary fat made up 40 percent of total calories—comparable to the holiday diet of many Americans), the subjects' mean plasma cholesterol levels had increased by 31 percent, primarily in the LDL fraction, which rose 39 percent. HDL-cholesterol increased by 31 percent (therefore LDL to HDL ratios changed very little). Plasma triglyceride levels increased by 18 percent, and subjects averaged an 8-pound gain in weight. The lipid changes occurred surprisingly soon, yielding nearly the same results after 7 days of affluent diet as after 35 days. The overall implication of this study is that humans can readily move their plasma lipid and lipoprotein values into a high-risk range within a very short time by eating an affluent, excessive diet.

Aerobic Fitness Affects the Diurnal Patterns of Blood Pressure in Adolescents, Particularly in Blacks. Earlier studies have shown that although black and white adults have similar blood pressure while awake, blacks have higher blood pressure during sleep. This difference in nocturnal blood pressure may account in part for the increased prevalence of hypertension among blacks, which is nearly 1.5 times higher than that among whites.

To examine the relationships among race, fitness, and blood pressure in 10- to 18-year-olds, researchers at the University of Tennessee General Clinical Research Center at LeBonheur Children's Medical Center in Memphis, first analyzed ambulatory blood pressure measurements to determine whether black adolescents had higher pressures during sleep than did white adolescents, then evaluated how aerobic fitness influenced this 24-hour rhythm of blood pressure.

Both black and white children had comparable systolic and diastolic blood pressure while awake, but while asleep, black males had higher systolic levels and both black males and females had higher diastolic levels. Subjects were then divided into "more-fit" and "less-fit" categories based on whether their maximal oxygen consumption during the exercise test fell above or below the median for their sex. In white children, awake or asleep, there were no differences in the blood pressures of less-fit and more-fit boys or girls. However, less-fit black children, awake or asleep, had consistently elevated systolic blood pressure relative to that of more-fit black children and all white children. These differences could not be accounted for by height, weight or weight to height indexes. This study suggests that staying fit to keep blood pressure in check, thus reducing the risk of hypertension, appears to be more important for blacks than for whites.

Screening Programs for Breast and Cervical Cancer. The Minnesota Department of Health, in collaboration with the University of Minnesota at Twin Cities, is developing screening and tracking programs for breast and cervical cancer in uninsured and under-insured women. Clinical sites, radiology departments, and pathology laboratories are providing data on test variability and response rates. Simulation studies will examine the effect of different scheduling, tracking, and follow-up mechanisms in reducing morbidity and mortality in this population.

Strategies to Interrupt Maternal-Fetal HIV Transmission. Investigators at Baylor College of Medicine and Texas Children's Hospital have participated in national AIDS Clinical Trial Group (ACTG) protocols designed to prevent transmission of HIV from the mother to the fetus or neonate and to determine the role of the placenta in transmission.

Based upon *in vitro* data and *in vivo* studies in adults, the recombinant-hybrid molecule CD4-IgG has been proposed as a possible means of interrupting transplacental/perinatal transfer

HIV [illegible] In one study, HIV-infected pregnant women [illegible] rCD4-IgG just prior to delivery. The results show [illegible] rCD4-IgG given to the fetus is transported across the placenta to infant; and (2) rCD4-IgG accumulates in the fetus when given 1 week prior to delivery. It is [illegible] rCD4-IgG at higher dosages up to [illegible] will afford the fetus much higher and sustained blood levels of rCD4-IgG. It is possible that the unique use of rCD4-IgG will prevent perinatal transmission of HIV.

In another study, based upon preliminary observations in 30 placentas of HIV-infected women, it is believed that HIV can be detected in the placental villi, generally in the fetal trophoblastic layer. Using in situ hybridization and confocal imaging microscopy, investigators have detected HIV-RNA in fetal trophoblastic cells in almost all of those infants who [illegible] sequently were shown to have HIV infection by HIV culture and/or PCR technology, p24 Ag determination, and clinical symptoms. The researchers plan to examine 30 placentas for HIV-RNA [illegible] HIV [illegible] mine in vitro the factors important in permitting HIV infection of chorionic villus samples.

AIDS, HIV among Intravenous Drug Users. [illegible] the New York University General Clinical Research Center statistically analyzed the incidence of AIDS in different HIV exposure groups. They found that fewer AIDS cases than expected occurred among male homosexual subjects and adults [illegible] persons infected from heterosexual contacts. Of 24 HIV seroconverters, 22 [illegible] drugs since their last interview. Among subjects who continued to inject drugs, heroin injection alone was a relatively unimportant risk factor for HIV seroconversion, being reported by only 7 of the 22 persons who seroconverted; cocaine injection appeared [illegible] HIV seroconversion [illegible] predictor of seroconversion. None of the other risk factors examined, including use of shooting galleries, cleaning of drug paraphernalia with bleach, sharing of paraphernalia with persons known to have developed AIDS, or number of male sexual partners, were found to be significant factors when gender and injection frequency were considered. Greater intravenous use of cocaine and receptive sexual intercourse with male drug users also may place drug-using women at increased risk of HIV [illegible]

AIDS Education. A summer basketball camp established near a public housing project was used to dispense AIDS education to neighborhood youth. Pre- and post-tests, conducted by researchers at the Minority Clinical Research Center at Meharry Medical College, were used to measure the effectiveness of this innovative teaching program and a 9-month follow-up test is planned. This program serves as a model for the Epidemiology/Prevention Research Program of the Association of Minority Health Professions Schools (AMHPS) AIDS Consortium.

Physiologic Antioxidant Agents & Oxidative Modification of Low-Density Lipoproteins (LDL). In a recent study, investigators using the General Clinical Research Center at the University of Texas Southwestern Medical School in Dallas tested the effect of dietary supplementation with alpha-tocopherol on the time course of oxidation of LDL in a randomized placebo-controlled single blind study. Two groups of 12 male subjects were given either placebo or alpha-tocopherol [illegible] mg/day for a period of 12 weeks. Alpha-tocopherol therapy did not result in any side effects or exert any adverse effect on the plasma lipid and lipoprotein profile. While the lipid standardized alpha-tocopherol levels were similar at baseline, the supplemented group had 3.3-fold and 4.4-fold higher levels compared to placebo at 6 and 12 weeks. The study showed that alpha-tocopherol supplementation results in an increase in plasma and LDL alpha-tocopherol levels resulting in a decreased susceptibility of LDL to oxidation; these findings could have major implications in the prevention of atherosclerosis.

Hormone Replacement To Prevent Osteoporosis. Progestins frequently are used in combination with estrogen for the prevention or treatment of post menopausal osteoporosis. Progestins protect against the undesirable hyperplastic effects of estrogen on the endometrium. The possibility that progestins might antagonize the beneficial effects of estrogen on calcium homeostasis has received little attention. Considering that possibility, researchers using the General Clinical Research Center at the University of California, San Francisco, examined whether the addition of progestin to estrogen would alter estrogen's capacity to raise serum levels of 1,25(OH)2D, the potent hormone that stimulates gastrointestinal absorption of dietary calcium. 1,25(OH)2D is the active metabolite of vitamin D, and is a major regulator of both intestinal calcium transport and bone metabolism.

Women within 5 years of menopause were treated with three cycles of oral estrogen (E2) followed by three cycles of E2 plus progestin. Such drug doses are those typically used for treating postmenopausal symptoms and preventing postmenopausal osteoporosis. E2 increased both total and free 1,25(OH)2D concentrations in a dose dependent fashion, suggesting that part of the capacity of E2 to prevent osteoporosis could be attributed to this effect of 1,25(OH)2D. These levels increased progressively over the three cycles of treatment with estrogen alone. With the addition of progestin, the levels of total and free 1,25(OH)2D returned toward baseline, indicating that the progestin was interfering with the effect of E2 on calciotropic hormone. The results support the hypothesis that progestin antagonizes part of the salubrious effects of estrogen on bone mineral homeostasis and indicate the need for further study of what is optimal hormone replacement to prevent osteoporosis in post menopausal women.

Studies in Hypertension. A wide range of blood pressure-related investigations have been conducted by investigators using the Outpatient General Clinical Research Center at Johns Hopkins University. Areas of special interest have included etiologic factors in essential and secondary hypertension, the role of ethnicity in development of hypertension and its complications, the value of ambulatory blood pressure monitoring and cardiovascular reactivity testing as independent predictors of cardiovascular risk, and the value of non-pharmacologic interventions in the treatment and prevention of hypertension. With respect to the latter, these investigators are currently providing national leadership for two major trials of non-pharmacologic therapy (the Trials of Hypertension

Prevention [TOHP]; the Dietary Interventions in the Elderly Trial [DIET]) and for an NHLBI-sponsored initiative to develop a national policy for primary prevention of hypertension. Findings from the first phase of TOHP indicate that weight loss and sodium restriction are the most effective interventions for lowering blood pressure in persons with a high-normal blood pressure. New information has been provided regarding the efficacy of stress management and supplementation with either potassium, calcium, magnesium, and fish oil, as well as factors related to achievement and maintenance of weight loss and sodium restriction. Phase II of TOHP is comparing the value of weight loss and sodium restriction (alone and in combination) to prevent the occurrence of hypertension during long-term (>3 years) follow-up.

Protective Effects of a Live Attenuated SIV Vaccine with a Deletion in the NEF Gene. Vaccine protection against HIV, the causative agent of human AIDS, and the related simian immunodeficiency virus (SIV) in nonhuman primate models has proved to be extremely difficult. Investigators at the New England Regional Primate Research Center have found that a constructed deletion in the auxiliary gene nef causes SIV to replicate poorly in rhesus monkeys and to appear nonpathogenic in this normally highly susceptible host. Rhesus monkeys vaccinated with live SIV (with the nef gene deleted) were completely protected against challenge by intravenous inoculations of live, pathogenic SIV. These findings suggest that the deletion of nef or of multiple genetic elements from HIV may provide the means for creating a safe, effective, live attenuated vaccine to protect humans against AIDS.

Advanced Technology for Diagnosis and Treatment of Multiple Sclerosis. Investigators at the University of Washington Regional Primate Research Center have explored the use of magnetic resonance imaging (MRI) of the brain to diagnose and directly monitor the effects of treatment for multiple sclerosis. Using a nonhuman primate model of multiple sclerosis known as experimental allergic encephalomyelitis (EAE), they and other researchers have demonstrated that MRI, which provides an x-ray-like image of the interior of the brain, gives a useful, objective means of monitoring the course of the disease. Using brain tissue from animals induced to develop EAE, it is possible to determine what changes in the brain give rise to the changes observed on MRI. They have found that the MRI changes most likely reflect a breakdown of the blood barrier and the influx of inflammatory cells and fluid into the area of damage.

This work has suggested, however, that even MRI does not pick up the earliest changes in the brain. One important change is the degradation of myelin, a substance that surrounds and provides electrical insulation to the individual nerve fibers. Two other applications of magnetic resonance technology are currently being explored to determine whether it is possible to detect this early aspect of the disease process. Preliminary results indicate that these techniques, known as magnetic resonance spectroscopy (which provides chemical information about brain tissue) and diffusion imaging, are very promising.

Co-Grafting of Dopamine Producing Cells and Nerve Tissue Enhances Treatment of Parkinson's Disease. Studies were conducted at the Yerkes Regional Primate Research Center to determine the effectiveness of transplantation of dopamine-producing cells into the central nervous system in the treatment of neurological deficits. Comparisons were made between the effects of transplantation of fetal brain cells versus adrenal medullary cells, as well as the effectiveness of various surgical techniques. The nonhuman primate model uses the administration of MPTP to selectively destroy dopaminergic cells in the nigro-striatal pathway; this results in a movement disorder which is quite similar to parkinsonism. Initial studies demonstrated the potential for correcting the Parkinson-like movement abnormalities using either adrenal medullary tissue or fetal mesencephalic tissue in the macaque model. A new co-grafting technique which uses adrenal medullary and peripheral nerve tissue together was found to greatly enhance survival of the transplanted cells, apparently due to the production of neurotrophic growth factors by the peripheral nerve cells. As a result of these findings in the monkey model, Emory University physicians were the first in the United States to use co-grafting of dopamine-producing cells (adrenal tissue) and nerve tissue in the surgical treatment of a patient with Parkinson's disease.

Cytokine Use in the Treatment of Neoplastic Diseases and in Bone Marrow Transplant Protocols. Studies have been conducted at the Yerkes Regional Primate Research Center to determine the effects of recombinant human hematopoietic growth factors (rhHGF's) on the hematopoietic system of nonhuman primates. During and after rhHGF administration, blood and bone marrow are serially sampled and assayed for various components of the hematopoietic system, including marrow and peripheral blood colony forming cells, marrow and blood $CD34^+$ cells (primitive immune and myeloid cells), marrow megakaryocyte number and ploidy, and marrow nucleated red cell number. The rhHGFs evaluated, either singly or in various combinations, include recombinant interleukin-3 (IL-3), interleukin-6 (IL-6) and granulocyte-macrophage colony stimulating factor (GM-CSF). IL-6 resulted in increased megakaryocyte size, ploidy and number, and in a marked increase in $CD34^+$ cells in the peripheral blood. These initial studies were performed in animals with unperturbed, steady state hematopoiesis. To stimulate the marrow regeneration that follows chemotherapy, studies have been initiated to determine the appropriate chemotherapy regimen to produce thrombocytopenia and neutropenia of sufficient magnitude to determine the effects of treatment with recombinant hematopoietic growth factors. As a result of positive findings in these studies, physicians in the Department of Medicine and the Bone Marrow Transplantation Program at Emory University will soon initiate studies to use recombinant IL-6 in the treatment of women with breast cancer. This will be the first clinical trial of recombinant IL-6 to aid recovery of the bone marrow in breast cancer patients who have been given high-dose chemotherapy and subsequent marrow stem cell transplants. Studies in the nonhuman primate model indicate that the use of bone marrow transplantation, in combination with cytokines, will allow the use of higher doses of chemotherapy in a safer and more effective manner. This treatment may also be applicable to women with breast cancer in earlier stages of the disease.

NATIONAL EYE INSTITUTE (NEI)

The National Eye Institute (NEI) was created on August [illegible], 1968. Its mission is to conduct and support research to improve prevention, diagnosis, and treatment of blinding and disabling eye disorders. NEI conducts and supports basic and clinical research, research training, health information dissemination, and other programs relative to blinding eye diseases, visual disorders, mechanisms of normal visual function, preservation of sight, [illegible]

NEI Prevention Highlights

Diabetic Retinopathy. Diabetic retinopathy accounts for approximately 12 percent of new cases of blindness each year in the United States. Diabetes increases the risk of blindness 25-fold over that of the general population, and it is estimated that 8,000 Americans become blind each year as a result of diabetic eye disease. The Diabetic Retinopathy Vitrectomy Study demonstrated that the maintenance or recovery of vision could be improved when eyes with very severe proliferative diabetic retinopathy and/or hemorrhage underwent prompt vitrectomy. Important new findings from the Early Treatment Diabetic Retinopathy Study (ETDRS) demonstrated that careful follow-up and deferral of laser photocoagulation surgery until retinopathy progressed to a high-risk stage were highly effective in preventing severe visual loss in non-proliferative or early proliferative disease. Data from the ETDRS indicate that currently recommended treatments are 90-percent effective in preventing blindness in patients with proliferative retinopathy. The ETDRS also showed that focal photocoagulation reduced the 3-year rate of moderate visual loss in eyes with diabetic macular edema from 33 percent for [illegible]

Through the National Eye Health Education Program (NEHEP), public and professional education activities stress the importance of early detection and timely treatment of diabetes. [illegible] NEI [illegible] of an inexpensive educational intervention to promote annual ophthalmic screening for low income African American [illegible] cation program for the prevention of eye disease in diabetic Native Americans, and evaluate programs that are designed to [illegible] diabetes.

Macular Degeneration. The Age-Related Eye Diseases Study (AREDS) is evaluating the effect of high-dose antioxidant vitamins and zinc on the progression of age-related macular degeneration (AMD). Patients will be randomized to either a high-dose dietary supplement or a low-dose dietary supplement and followed for a minimum of 7 years to assess the progression of AMD and the formation of cataracts.

Glaucoma. Researchers in the Fluorouracil Filtering Surgery Study (FFSS), sponsored by NEI, examined the efficacy of five-fluorouracil (5-FU) in slowing the growth of undesirable scar tissue that may reverse the beneficial effects of surgery for glaucoma. Results from the FFSS showed that patients receiving 5-FU were less likely to require further surgery and needed fewer or no daily medications.

Herpetic Eye Diseases Study. The Herpetic Eye Diseases Study (HEDS) is a randomized, controlled clinical trial designed, in part, to evaluate whether oral acyclovir, given to patients in combination with steroid and antiviral eye drops, improves the management of active herpes simplex stromal keratitis. HEDS investigators recently reported that oral acyclovir is no better than placebo in treating herpes simplex stromal keratitis. A second randomized clinical trial conducted as part of HEDS examined the effect of steroid eye drops in combination with topical trifluridine as a treatment for active herpetic stromal keratitis. Preliminary findings, from HEDS, indicate that corneal inflammation was held in check longer and cleared faster in patients treated with steroids.

The Collaborative Corneal Transplantation Studies. Corneal transplantation is performed on approximately 120,000 eyes annually in the United States. The importance of matching histocompatibility and tissue-specific antigens in those at high risk for graft rejection has been assessed in the Collaborative Corneal Transplantation Studies (CCTS). Recently, CCTS reported that donor/recipient tissue typing had no significant long-term effect on the success of corneal transplantation. Instead, the CCTS found that high-risk transplant survival could be improved through the use of two inexpensive strategies: donor-recipient ABO blood type matching and post operative high-dose topical steroid therapy.

Retinitis Pigmentosa. Rhodopsin is the light-sensitive protein that initiates the conversion of light energy into visual signals in the retina, a process called phototransduction. An important recent advance in vision science has been the identification of the rhodopsin gene and its localization to chromosome 3. With this information, NEI-supported scientists examined the rhodopsin gene in individuals with autosomal dominant retinitis pigmentosa (ADRP), a blinding, inherited retinal degenerative disease that also has been mapped to chromosome 3. They discovered a point mutation (nucleic acid substitution) in the rhodopsin gene in patients with one form of ADRP. This discovery provides a focus for studies of the mechanisms that lead to blindness in ADRP.

Myopia and Other Refractive Errors. In the United States, about 25 percent of the adult population is myopic (nearsighted) and requires some form of optical correction to see clearly beyond arms' length. Recently, research on the mechanisms of myopia development has begun to move rapidly due to the availability of animal models. NEI grantees have identified periods of development in which newborn animals are susceptible to visual deprivation-induced myopia and demonstrated that recovery from deprivation myopia is possible during the development period. Other NEI-supported scientists have provided evidence that myopia development is influenced by local retinal neurotransmitters. In recent animal experiments, dopamine has been suggested as a factor that links ocular growth control to vision, and dopamine agonist have been shown to partially protect the eye from myopic elongation.

Uveitis. Uveitis, inflammation within the eye, can be caused by infectious agents and other external factors or it can be an autoimmune disease. Previously, researchers had determined that a retinal protein, S-antigen, injected into the eye of lower mammals induces an experimental autoimmune uveitis (EAU)

that mirrors the human disease. NEI-intramural scientists studying the EAU have identified four uveitogenic peptides within the S-antigen molecule. One of these S-antigen peptides has structural similarity to bacterial and viral antigens that induce uveitis. These studies confirm that an immune response against an immunogenic sequence shared by host and foreign antigens can elicit autoimmune inflammation. These findings also support the hypothesis that infectious agents exhibiting "molecular mimicry" (shared immunogenic sequences) may play a pivotal role in the etiology of autoimmune disease.

NATIONAL HEART, LUNG, AND BLOOD INSTITUTE (NHLBI)

The National Heart, Lung, and Blood Institute (NHLBI) provides leadership for a national program in diseases of the heart, blood vessels, lungs, and blood, and in the uses of blood and management of blood resources. Through research in its own laboratories and through extramural grants and contracts, the Institute conducts an integrated program that includes basic and clinical investigations, clinical trials, epidemiologic studies, and demonstration and education projects. These efforts have contributed significantly to the realization of the NHLBI's ultimate goal—the prevention of disease.

NHLBI Prevention Highlights

Prevention and Control of High Blood Pressure. The National High Blood Pressure Education Program (NHBPEP) was initiated in 1972 as a cooperative effort between the NHLBI and major professional and voluntary health agencies to reduce death and disability associated with high blood pressure. NHBPEP efforts are targeted to professional, patient, and public audiences, and focus on stimulating disease prevention and control activities, developing and disseminating educational materials, and providing technical support to community health programs. The NHBPEP regularly reviews and revises its educational materials and messages to verify that they reflect the current scientific consensus. The Fifth Report of the Joint National Committee on Detection, Evaluation, and Treatment of High Blood Pressure recommends a new scheme for classifying high blood pressures. It emphasizes that even mildly elevated blood pressure, formerly called mild hypertension and now called Stage I hypertension, is associated with a higher risk for mortality and morbidity and requires treatment. The Working Group Report on the Primary Prevention of High Blood Pressure recommends lifestyle changes—weight control, reduced consumption of salt and alcohol, and increased exercise. The recommendations are supported by data that show population-wide blood pressure reductions of as little as 2 mm of mercury decrease mortality from both heart disease and stroke.

The NHLBI is planning to implement a number of new prevention initiatives concerned with hypertension. One of them will contribute to our understanding of the role of dietary patterns on blood pressure regulation by testing the effect of patterns that (1) reduce total fat, saturated fat, and cholesterol and increase modestly polyunsaturated fat and protein, (2) increase potassium, calcium, magnesium, and fiber, and (3) incorporate both approaches.

Because the blood pressure of many patients cannot be adequately controlled by non-pharmacologic means alone, additional research is needed to identify optimal drug treatment approaches. Although existing data show that blood pressure control can generally be obtained by any of the five major classes of antihypertensive agents, namely, diuretics, beta-blockers, alpha-blockers, calcium channel blockers, and angiotensin converting enzyme inhibitors, only the first two classes, the diuretics and the beta-blockers, have been shown to reduce mortality and morbidity. Since diuretics are widely available as generic drugs, treatment with them is generally significantly cheaper than treatment with drugs from either the calcium channel blocker class or the angiotensin converting enzyme class. NHLBI will initiate a new practice-based clinical trial of antihypertensive pharmacologic treatment to determine whether the combined incidence of fatal coronary heart disease and non-fatal myocardial infarction differs between individuals who receive diuretic-based therapy and those who receive alternative antihypertensive agents.

Treatment of Patients with Hemoglobin Disorders. Investigators have attempted to treat patients with hemoglobin disorders such as sickle cell disease and Cooley's anemia by reversing the "hemoglobin switch" that occurs naturally at birth so that normal fetal hemoglobin can be produced. Although the chemical, hydroxyurea, increases fetal hemoglobin in some patients with sickle cell disease, concern remains about its therapeutic use because it suppresses bone marrow and its long-term toxicity and effects on growth and development are unknown. However, recent work reported by scientists from the NHLBI and NIDDK reduced the treatment levels of hydroxyurea and achieved similar results as earlier studies by also administering growth factor erythropoietin. A recent pilot study of butyrate, a naturally occurring nontoxic chemical used as a flavor additive in some foods, demonstrating its ability to "switch on" production of fetal hemoglobin when injected into the blood stream. An oral form of butyrate, phenylbutyrate, has been developed and is expected to be longer-acting and more convenient for patient use. Successful extension of these studies may lead ultimately to the first treatments for sickle cell disease and Cooley's anemia that are both effective and free of serious side effects.

Prevention of Obesity in Minorities. Obesity is a significant risk factor for cardiovascular disease which is particularly prevalent among minorities. The NHLBI Growth and Health Study is an observational study to investigate development of obesity in a cohort of black and white girls who were aged 9-10 years at initial evaluation. Results to date indicate that, as early as age 9, black girls begin to manifest risk factors that will make them 2 to 4 times more likely to develop heart disease as adults than white girls. Black girls are significantly heavier than white girls, and consume more calories, with a larger percentage of calories from fat. They also have greater skinfold measurements—an indicator of body fat—and, by age 9, significantly higher blood pressures than white girls of comparable age. On the other hand, black girls have lower blood levels of triglycerides, a fat linked to higher risk of heart disease, and higher levels of high density lipoprotein (HDL, the so-called "good" cholesterol that offers protection against heart disease). However, these advantages begin to disappear at puberty, which black girls experience earlier than their

white counterparts. The investigators speculate that black girls may have an initial genetically determined advantage with regard to risk of heart disease that diminishes with increasing obesity.

The Strong Heart Study is a major NHLBI research effort that is providing important new information on risk factors for cardiovascular disease in 45- to 74-year-old American Indians. Two of the major risk factors for cardiovascular disease [illegible] with a high frequency among study participants. Diabetes is 10 to 20 times more [illegible] Obesity is also a risk factor for diabetes that is present in 28-50 percent of the population. Geographical differences exist in the risk for obesity [illegible] the highest rates occurring in Arizona and the lowest occurring in the Dakotas. Because a marked increase in obesity occurs between the ages of 10 and 25, NHLBI initiated a study [illegible] can be slowed or prevented in American Indian and Alaska Native school children. Results of the study will be available [illegible]

Smoking Cessation in Minorities. NHLBI has supported conducting extensive smoking research targeting minority populations. Results from the epidemiological study on Coronary Artery Risk Development in Young Adults (CARDIA), an NHLBI-initiated research program, demonstrate significant differences in smoking behavior among minority and white adults. Despite decreases in the percentage of smokers in the United States over the last 25 years, smoking patterns remain unchanged among minorities. In addition, a greater percentage of Black Americans are current smokers than whites, and, according to some previous studies, blacks tend to smoke cigarettes [illegible] Because [illegible] smoking contributes to the higher incidence of chronic diseases and premature death among minorities, NHLBI initiated a smoking cessation research program to develop interventions that are both culturally sensitive and specifically designed to reach minority populations. Preliminary data indicate that such targeted interventions are effective in decreasing smoking rates among minorities.

Prevention of Stroke in Sickle Cell Disease Patients. Among sickle cell patients, thrombotic stroke is the most common form of cerebrovascular event during the first two decades of life, while hemorrhagic stroke occurs more frequently thereafter. Overall, prevalence estimates for cerebral [illegible] intracranial hemorrhage range from 7 to 34 percent. Definitive diagnosis often required intra-arterial angiography, an invasive procedure that entails some risk. However, the noninvasive techniques now available for imaging large cerebral vessels require neither contrast materials nor radioactive blood tracers and have very few associated risks. Thus, sickle cell disease patients at risk for serious ischemic events can now be safely identified and treated before such problems occur.

National High Blood Pressure Education Program—Strike Out Stroke. NHLBI, through the NHBPEP, initiated a Strike Out Stroke campaign. Financial and technical support was provided to 12 State health departments in the so-called Stroke Belt of the southeastern United States, to help them develop public education and other approaches to reduce the prevalence of high blood pressure and smoking among blacks. Included in the Strike Out Stroke effort were church- and community-based programs, media campaigns selectively targeted for particular audiences, development and dissemination of easy-to-read materials for persons with low literacy skills, and data collection and evaluation projects. The effort was so successful that NHLBI plans to broaden the scope of activities in the currently participating State health departments to increase the participation of high risk individuals.

Prevention of Thrombosis. Thrombosis, the formation of clots in blood vessels, is the precipitating event for most heart attacks and stroke. One approach to the development of antithrombotic drugs is to design specific and selective inhibitors of thrombin, the central enzyme responsible for platelet aggregation and clot formation. A significant step was recently taken towards that goal with the identification of the structure of a molecule on human platelets that binds thrombin. If this molecule can be blocked so that binding of thrombin is inhibited, then clot formation will be retarded. Two types of molecules have been synthesized, namely antibodies to the binding domain, and molecules mimicking the binding domain. Initial studies using these agents appear promising and suggest that they may lead to the development of more effective antithrombotic drugs to use in the prevention of heart attacks and strokes.

Prevention of Stroke and Cardiovascular Disease in the Elderly. The Systolic Hypertension in the Elderly Program (SHEP) is a double-blind, randomized clinical trial sponsored by NHLBI and the National Institute on Aging. Isolated systolic hypertension (ISH), a condition in which systolic blood pressure is elevated but diastolic pressure is normal, affects about 3 million Americans age 60 and older. It is associated with 2 to 3 times higher risk of stroke, and also an increased risk of coronary heart disease, heart failure, heart attack, and sudden death. However, it was previously unclear whether lowering systolic blood pressure reduced these risks. SHEP assessed the effects of treatment of ISH with commonly used, inexpensive antihypertensive drugs. The study found that the treated group experienced average 5-year reductions of 36 percent for stroke, 27 percent for coronary heart disease, and 32 percent for all cardiovascular events. These results form the basis for important new medical care recommendations that are expected to have a substantial beneficial impact on morbidity and mortality among older Americans.

Correction of Mucus Abnormality in Cystic Fibrosis. Although progress in palliative treatment of cystic fibrosis (CF) has increased median survival from 4 years of age in 1960 to 28 years in 1990, the search for a cure has been impeded by an inadequate understanding of the underlying genetic defect. The situation changed dramatically with the discovery of the CF gene in 1989. Study of the gene and its product has enabled scientists to recognize that CF is caused by abnormal transport of chloride and sodium ions in the lung cells, resulting in development of thick, sticky mucus. Recently, NHLBI-supported researchers identified two naturally occurring nucleotides, adenosine triphosphate and uridine triphosphate, that appear to correct the chloride secretion problem in airway cells. Their findings, taken together with earlier observa-

tions that aerosol administration of the diuretic amiloride decreases sodium absorption in the upper airways of CF patients, suggest that a combined therapy to prevent abnormal mucus production may lead to improved survival and reduced morbidity among CF patients.

NHLBI-supported researchers are also continuing to investigate methods for correcting the underlying genetic defect in cystic fibrosis so that the disease itself can be prevented. Clinical studies of gene therapy for cystic fibrosis have already begun in the intramural laboratories of the NHLBI. In addition, the Institute will implement an initiative to stimulate further research on gene therapy approaches for cystic fibrosis and other heart, lung, and blood diseases.

Prevention of Heart Failure Mortality. Heart failure affects approximately 2 million Americans. It is characterized by dysfunction of the left ventricle that is manifested in a low ejection fraction, and by associated edema, shortness of breath, and variations in blood pressure. Persons with left ventricular dysfunction who are asymptomatic for heart failure are at high risk for developing heart failure and persons with heart failure experience high rates of hospitalization and mortality. In an important NHLBI-sponsored program, Studies of Left Ventricular Dysfunction, two concurrent randomized, double-blind controlled trials were conducted on patients with low ejection fraction to evaluate the effects of administering an angiotensin-converting-enzyme inhibitor (enalapril). Individuals who were symptomatic for heart failure were enrolled in the treatment trial, while asymptomatic individuals and individuals who were only mildly symptomatic were enrolled in the prevention trial. In the treatment trial, enalapril was shown to reduce mortality and hospitalizations and to improve functional capacity of the heart. In the prevention trial, enalapril therapy was shown to achieve significant reductions in the occurrence of new onset heart failure and in hospitalizations.

Prevention of Passive Smoking. In a recent study supported by NHLBI, a health education program to encourage nonsmoking among new mothers led to a reduction, by half, in the prevalence of persistent lower respiratory symptoms in their babies. This study indicates that educational programs to inform expectant mothers on infant health care could include a passive smoking reduction component and thereby prevent respiratory infections and symptoms.

Prevention of Coronary Restenosis. In many patients with coronary heart disease, balloon dilatation of obstructed coronary arteries, known as percutaneous transluminal coronary angioplasty (PTCA), can improve blood flow to the heart and thereby relieve symptoms. The major limitation of this widely used procedure is that restenosis (reocclusion) occurs in approximately 30 percent of patients, many of whom subsequently undergo a repeat PTCA procedure or coronary bypass surgery. Restenosis is due mainly to the accumulation of smooth muscle cells in the vessel wall. Recently NHLBI-supported investigators prevented restenosis in rats and rabbits by using an innovative genetic therapy approach that selectively blocks the activity of specific genes required for smooth muscle cells to divide. Initial results indicate that this potential therapeutic strategy is inexpensive and highly effective at very low doses and with short treatment times. A major advantage is that treatment is localized to a small portion of the blood vessel and therefore avoids the problems of side effects and lack of specificity inherent in systemic approaches. Although further work in non-human primates is necessary before extending this research to humans, the results offer the prospect of improved long-term outcomes following PTCA therapy. If proven successful in humans, the approach could reduce dramatically the risk, inconvenience, and cost of repeat PTCA.

Lowering Blood Cholesterol in Children. An expert panel convened by the National Cholesterol Education Program has recommended that a two-pronged approach be implemented to lower the cholesterol and saturated fat intakes of children and adolescents. First, a public health approach is proposed that would have adolescents and children above the age of 2 years follow a diet low in cholesterol and saturated fat. Second, for children and adolescents from high-risk families, as determined by family history, an individualized patient-based approach would be used, in which targeted screening and intervention is applied, with diet as the primary treatment. The recommendations were published as a supplement to the journal *Pediatrics*. Booklets outlining the recommendations have also been prepared for parents and for different age groups of children.

In addition, NHLBI is supporting a study, entitled the Dietary Intervention Study in Children, to determine the long-term safety, efficacy, acceptability, and feasibility of a modified fat diet in children with elevated serum LDL (low density lipoprotein, the so-called "bad" cholesterol). Preliminary data show significant reductions in blood LDL levels and no adverse effects on growth. In fact, children in the intervention group were taller and leaner than the controls. The study will be extended for an additional 7 years so that the long-term effects of dietary intervention on the growth and development of children can be determined.

The NHLBI plans to survey physicians who provide primary care to children in the United States to obtain information on their current attitudes, knowledge, and practice patterns related to pediatric preventive cardiology. The information provided by the survey will allow the Institute to target more effectively future educational efforts related to improved cardiovascular health for children.

Smoking Among Youth. Evidence exists of long-term effectiveness of school-based smoking prevention programs. In an intervention community, students were exposed to behaviorally oriented health education from 6th through 10th grades, with a major emphasis on smoking avoidance in the 7th grade curriculum. Annual surveys revealed that both smoking prevalence and smoking intensity (that is, number of cigarettes smoked per week) diverged progressively between students in the intervention and control communities beginning in the 7th grade. The differences were maintained through the 12th grade. By the end of high school, only 14.6 percent of students in the intervention community were smokers, compared with 24.1 percent in the control community. These results suggest that school-based intervention within a supportive community context can substantially reduce smoking initiation in adolescence.

Neonatal Respiratory Distress Syndrome. Current research is focused on the timing and dosage of surfactant ther-

apy, and with understanding why some infants with respiratory distress syndrome (RDS) [illegible] despite administration of surfactant. Attention is also being directed toward the role of maternal antenatal steroid therapy in enhancing lung maturation and surfactant function. Although antenatal steroids can significantly lower RDS mortality when administered to expectant mothers at risk for delivering premature infants, [illegible]. An upcoming Consensus Development Conference, jointly sponsored by the NHLBI and other components of the NIH, will attempt to develop clearly defined indicators for antenatal steroid therapy that will encourage more routine use of this preventive strategy in appropriate patients.

Prevention of Transfusion-Associated Hepatitis. An NHLBI-sponsored study recently assessed the risk of transfusion-associated hepatitis C virus (HCV) [illegible] patients undergoing cardiac surgery. Introduction of anti-HCV screening of blood was associated with an 85-percent decline in risk of HCV infection among recipients of blood or blood products: infection rates dropped from 45 to 3 per 10,000 units transfused. The effectiveness of donor screening is expected [illegible] assay will reduce the risk of HCV post-transfusion hepatitis to approximately 1.5 cases per 10,000 units transfused.

Physical Activity for Cardiovascular Health. A recent NHLBI-supported study reported improved lipid profiles when an exercise regimen was added to a diet reduced in total fat, saturated fat, and cholesterol. After 1 year of follow-up in this randomized, controlled clinical trial, interventions consisting of diet plus exercise offered significant advantages over [illegible] were noted. For example, men assigned to the diet plus exercise group lost significantly more weight and significantly [illegible] rable differences were found in either measure among women.

Women's Health Study. [illegible] gated. Observational data from the NHLBI-supported Nurses Health Study indicate that women who reported taking an average of one to six aspirins per week had a 25-percent reduction in risk of myocardial infarction, but no change in stroke or cardiovascular mortality. Although these data are suggestive, results from a more detailed, controlled study are needed to determine whether prophylactic aspirin use in women can prevent [illegible]. In addition to this [illegible] porting the Women's Health Study, a randomized, double-blind, placebo-controlled trial of low-dose aspirin for prevention of heart disease and of beta carotene and vitamin E for prevention of both cancer and heart disease in women. Recruitment of the over 40,000 nurses expected to participate in the study began in 1992. The results will permit informed decisions to be made on whether to recommend prophylactic aspirin and vitamin use by women to prevent heart disease.

Silent Ischemia. NHLBI has undertaken the Asymptomatic Cardiac Ischemia Pilot study to assess the feasibility of conducting a full scale clinical trial that would determine the relative effectiveness and safety of usual care, stepped medical therapy, or mechanical revascularization (angioplasty or coronary artery bypass grafting) in preventing morbidity and mortality among patients who suffer from asymptomatic ischemia. Another study, Psychophysiological Investigations of Myocardial Ischemia, is investigating neurological and psychophysiological factors that affect the manifestations and presentation of myocardial ischemia. Since individuals who experience ischemia are at increased risk for premature mortality, enhanced understanding of the underlying mechanisms and an improved ability to identify the presence of ischemia are expected to lead to prevention of morbidity and mortality.

Asthma. A growing awareness of the critical role played by inflammation in the pathogenesis of asthma has stimulated a search for new drugs to prevent crises in this chronic disease. Leukotrienes, chemical substances formed from the metabolism of arachidonic acid by the enzyme 5-lipoxgenase have recently been implicated in the airway obstruction of asthma. This discovery by NHLBI-supported investigators has led to development and testing of candidate drugs designed to block either 5-lipoxygenase or the leukotriene receptor. Preliminary results have been highly promising; a significant improvement [illegible] function was observed in patients with mild to moderate asthma who received blockers of 5-lipoxygenase. These [illegible] prove to be the first new drugs in the last 25 years for treatment of asthma.

A number of NHLBI-sponsored activities are under way to encourage physicians to use state-of-the-art techniques to diagnose, treat, and manage asthma. Although asthma generally can be controlled with expert medical treatment and self-management, many patients fail to receive adequate care or to follow prescribed treatment plans. The Institute is taking specific action to promote improved control of this chronic disease. There has been widespread dissemination of the "Guidelines for the Diagnosis and Management of Asthma," and the new "Report of the Working Group on Asthma and Pregnancy" is currently being distributed. Further, the Institute recently initiated a new program, the Asthma Academic Award. This award will support programs in medical schools to stimulate the development, implementation, and evaluation of high-quality curricula related to asthma. Such programs are expected to increase the opportunities for students, house staff, and others to learn the principles and practice of preventing, managing, and controlling asthma, [illegible] to promote the development of a faculty capable of providing appropriate instruction in asthma. The NHLBI will initiate a program to develop innovative outreach programs for ensuring appropriate management and control of asthma. In addition, the Institute will establish a network of interactive asthma clinical and health education research units to permit rapid assessment of innovative treatment methods and to ensure that health professionals are aware of the most current knowledge on asthma diagnosis and management.

Tuberculosis. There are now in the United States an excess of 25,000 tuberculosis (TB) cases over what had been predicted based on trends from the early 1980. The disease is spreading quickly, especially among minority population groups and in HIV-infected patients. Also at high risk of TB infection are persons living or working in group or institutional settings, such as hospitals and correctional facilities. Among the problems associated with control of TB are inadequate resources, clinical management errors, and patient non-adherence to treatment regimens.

The NHLBI recently initiated a Tuberculosis Academic Award to encourage the development of high-quality medical school curricula related to TB control; to enhance awareness by health care providers of ethnic, cultural, socioeconomic, and medical dimensions of TB; and to foster collaboration with community organizations to control TB in localities with high incidence of disease. Minority institutions and urban institutions in areas with a high incidence of TB are particularly targeted by this new effort.

The Institute is initiating two new research programs focused upon TB and the lung. The first, Expression of Tuberculosis in the Lung, is intended to identify the manner in which factors such as gender, ethnicity, heredity, and associated disease states (e.g., HIV infection, silicosis) influence susceptibility to and severity of TB in the lung. Cellular and molecular mechanisms that define the immunologic and pathophysiologic responses to the TB bacterium will also be explored. A second program, Non-Immune Defense Against Tuberculosis in the Lung, seeks to determine the manner in which non-immune mechanisms may play a role in defending the lung against TB infection, particularly in the early stages of disease. The results of these research programs are expected to lead to new directions or prevention and control of TB infection and its associated morbidity and mortality.

NATIONAL INSTITUTE ON AGING (NIA)

The National Institute on Aging (NIA) supports biomedical behavioral and social research on processes of aging and the disease problems and other special needs of older people. Within this broad mandate, one of the goals of the NIA is to develop an overall strategy related to health promotion and disease prevention.

NIA Prevention Highlights

Frailty and Injuries. NIA began the Frailty and Injuries: Cooperative Studies of Intervention Techniques (FICSIT) program in 1990. FICSIT is a set of clinical trials of interventions against frailty and injuries, and has demonstrated the feasibility of conducting interventions in frail older individuals. Moreover, it has found certain exercise regimens to be efficacious in improving strength, balance, and endurance in older persons, and some interventions have shown a 30-percent reduction in fall rates. These trials were completed in 1993. Interventions tested in the different FICSIT trials have been combined to plan a comprehensive program to prevent injurious falls and decline in independent functioning in individuals 75 years and older. This program will begin in 1994 or 1995.

New Hormone Therapies for Preventing Frailty. New studies to evaluate the effects and safety of growth hormone and other trophic factors are designed to test whether the aging process can be reversed or slowed. Nine controlled clinical trials have begun to determine whether strength, mobility, balance, and endurance can be improved when people are given trophic factors. If this, and other research, establish the efficacy of trophic agents, such hormone replacement therapy could become an important tool for preventing physical frailty among older men and women.

This program was stimulated by recent reports that growth hormone administration to healthy men 65 and older with low growth hormone levels increased lean body mass and decreased body fat and the effects of aging on the skin. In some people, hormone levels decrease with age. The critical question is whether chronic administration to restore or maintain these hormones will keep people strong and fit. These substances may have promise for halting or reversing degenerative changes in bone, muscle, nerves, and cartilage, which lead to frailty.

NIA intramural scientists are conducting collaborative studies in which women and men over 65 years of age, who have relatively low levels of insulin like growth factor I and low levels of sex steroid hormones are treated for 6 months with either growth hormone injections, sex-appropriate transdermal steroid patches, sex steroid plus growth hormone, or placebos for both hormones. Because sex hormones and growth hormones act on bone, the question of whether both types of hormone together may act synergistically and have an advantage over either alone is being explored.

Osteoporosis. In 1991, NIA began the STOP/IT program (Sites Testing Osteoporosis Prevention/Intervention Treatment), a set of clinical trials to test promising means of maintaining or increasing bone strength in persons age 65 and older. These trials will generate information on the efficacy of treatments such as estrogen, calcium, vitamin D, and physical exercise in older individuals. Enrollment of participants in this study was proceeding in 1993. A full scale hip fracture prevention trial, based on the results of STOP/IT, should be feasible by the mid-1990s.

A study using the co-twin model proved to be the first to demonstrate in children a direct, significant relationship between the amount of calcium consumed and bone density. Although average dietary calcium intake in 22 preadolescent twin pairs closely approximated the RDA, the twin who received extra calcium (of about 700 milligrams per day), showed greater gains in bone mass, particularly in the forearm and spine. Because peak bone mass, or the bone mass achieved at maturity, is a major determinant of bone mass in later life, it is anticipated that increases in bone mass during the growth spurt are likely to offer increased protection against osteoporosis and related fractures in old age.

Urinary Incontinence. In 1991, NIA-sponsored researchers showed that a 6-week program of bladder training was an effective way to prevent incontinence for many women. These results were incorporated into Clinical Practice Guidelines by the Agency for Health Care Policy and Research, and have been distributed to health care providers. Researchers have subsequently demonstrated that weight reduction is also useful in obese women with urinary incontinence. Ongoing studies are examining both medication use and behavioral means to prevent incontinence.

The Baltimore Longitudinal Study of Aging. The Baltimore Longitudinal Study of Aging (BLSA), NIA's major intramural study of human aging, continues to produce findings relevant to disease prevention. The study panel of 1,150 men and women from 20 to 97 years in age come to Baltimore every 2 years for a 2½-day visit to be intensively studied for physiologic and behavioral changes. There are over 50 BLSA research projects in progress and emphasis is being given to research relevant to women and minorities.

Longitudinal Studies of Prostate Disease. Little is currently known about the relationship between prostate growth, disease and symptomatology. Previous findings from the Baltimore Longitudinal Study of Aging suggest that rates of change in prostate-specific antigen (PSA) may be a sensitive and accurate method of detecting prostate cancer, and perhaps BPH. These studies suggest that longitudinal measurements of PSA in persons with prostate cancer show striking increases, some 4 to 6 years prior to clinical diagnosis. A collaborative BLSA longitudinal study is underway to distinguish normal growth from prostate disease; to identify hormonal changes related to the development and progression of prostate disease; to refine the use of repeated PSA measurements to detect the early stages of prostate disease; to identify factors associated with obstructive symptomatology; and to study possible differences in these re- [illegible] designing prevention, screening, and intervention programs to reduce the mortality, morbidity, and health care costs related to prostatic disease.

A variety of biological samples is collected from BLSA participants at sequential visits and banked. As potential early markers for disease are identified, this bank together with the [illegible] the participants allows an instantaneous longitudinal study to be conducted relating the early marker to risk factors and [illegible]

Diagnosis of Diabetes Mellitus. [illegible] that diagnostic standards for interpreting the oral glucose tolerance test may need to be age-specific; that is, that different cutpoints may be required for young, middle-aged, and older adults. The last revision of recommendations for interpreting plasma glucose values was made in 1979. At that time, there [illegible] dards. Data from the BLSA collected over the past 30 years now provides evidence bearing on this question. Fasting plasma glucose had been defined as "normal" up to a level of 115 mg/dl, as "borderline" between 115 and 139 mg/dl, and as "diabetic" above 140 mg/dl. The BLSA data show that fasting plasma glucose is a "graded" variable comparable to cholesterol [illegible] of overt diabetes. Furthermore, the standards for diagnosing "impaired glucose tolerance" (2-hour plasma glucose levels of [illegible] however, these standards seem to be appropriate; after age 60, no subject developed diabetes after many years of follow-up if the 2-hour glucose level was below 157 mg/dl. Thus, the range of 140 to 157 in older individuals should probably not carry the diagnosis of "impaired glucose tolerance." These results point to the necessity of more long-term follow-up studies of the development of diabetes and its complications.

Hearing Loss and Aging. Understanding the rate and causes of age-associated hearing loss looking at preventable factors such as noise, ototoxic medications, vascular changes, or other lifestyle factors. Findings from the BLSA show that the longitudinal rates of decline in hearing sensitivity are approximately twice as great in men as women, even among men and women employed in relatively noise-free occupations. To date, this is the largest and longest longitudinal study of hearing thresholds conducted in the world. Although many factors can cause hearing loss, the consensus among audiologists is that noise exposure at the workplace, in military service, or in leisure activities such as hunting, woodworking, and loud music may play a role in the more rapid hearing loss in men. Longitudinal estimates of age-associated loss of hearing sensitivity will be useful for estimating future prevalence of hearing impairment and for identifying factors that may be preventable.

Mechanisms of Race and Gender Differences in Arterial Pressure with Aging. It is hypothesized that age-related changes in large artery stiffness may be an important determinant of deleterious thickening of heart muscle and of subsequent cardiovascular events. The NIA intramural program has embarked on a major new initiative to quantify the age-associated increase in arterial stiffness in relation to race and gender and to characterize its effects on the heart and brain. Initial results indicate that older persons with higher fitness levels have arteries that are less stiff than those of less fit individuals. Longitudinal follow-up should help determine the effect of vascular stiffness on the development of heart disease and stroke.

Self Care. An NIA-supported study provides the first nationally representative sample data base on self-care behaviors practiced by Americans 65 years and older who live in the community. Preliminary findings suggest that there is a considerable range of adaptation in a person's environment as they age. By acquiring equipment and learning special skills to adapt to specific functional limitations, older people find ways to maintain their independence for as long as possible. For example, 13.6 percent of the population uses a cane, 11.1 percent have moved things to lower shelves to be within easy reach, and 23.2 percent get help to prepare meals. Practice of health promotion and disease prevention behaviors is widespread in the population of community-based older adults. Fifty-six percent report getting adequate sleep, 88 percent eat breakfast regularly, 77 percent avoid eating between meals, 58 percent maintain appropriate body weight, 96 percent either never drink or have moderate alcohol consumption (no more than two drinks in a sitting), 55 percent never have smoked cigarettes, and 68 percent remain physically active with sports, walks, gardening, or other forms of exercise.

Risk Factors and the Health Experience of Older Persons. Using data collected as part of the Alameda County Study, a population-based epidemiologic study begun in 1965, investigators have conducted a series of analyses that demonstrate the strong relationship between a wide variety of behavioral, social, and demographic factors and risk of death from all causes (even in those 70-94 years old who were followed for 17 years). More recent analyses focusing on functional outcomes provide additional support for the continued importance of social and behavioral risk factors throughout the life course. For example, smoking, income, and depression strongly predict limitations in mobility for individuals who develop chronic disease (e.g., heart trouble, stroke, arthritis). Being a current smoker (odds ratio=2.87; 95 percent CI 1.58-5.24), having an inadequate level of family income adjusted for family size (odds ratio=1.81, 95 percent CI 0.90-3.65), and being depressed (odds ratio=2.43, 95 percent CI 0.99-5.96) were all associated with substantially elevated risks of develop-

ing mobility limitation in these persons with incident chronic conditions. Thus the impact of disease on functioning might be lessened if social or behavioral interventions are applied at different points in the course of an illness.

Influenza Vaccination. Despite the demonstrated effectiveness of influenza vaccination, baseline adherence rates among at-risk elderly are around 10 percent, and lower still among low socioeconomic groups. Phone call reminders reliably increase adherence rates. However, they are limited because (1) a human operator must make a call and continue calling if there is no answer and (2) the human operator must speak a language comprehended by the target older adult. NIA-supported researchers have now developed a voice-mail system in which patients' names are recorded only once, the message concerning the vaccination is recorded only once, and the message can be recorded in as many languages as are spoken in the calling area, and which can also make appointments for patients by comparing available openings to the patients' schedules. In a field trial, the system increased adherence rates in a low socioeconomic group above baseline and above other reminder means (mailed and verbal announcements). Voice mail was most effective when used in combination with the other reminder means.

Established Populations for Epidemiologic Studies of the Elderly. The Established Populations for Epidemiologic Studies of the Elderly consists of prospective epidemiologic studies of approximately 14,000 persons 65 years of age and older in four different communities: East Boston, Massachusetts; two rural counties in Iowa; New Haven, Connecticut; and segments of five counties in north-central North Carolina. The North Carolina sample included 54-percent black participants. Recent findings indicate that even after age 65, smoking cessation has health benefits; annual smoking cessation rates of 10 percent were observed; and smokers tended to quit more often after the diagnosis of heart attack, stroke, or cancer.

Women's Health and Aging Study. The Women's Health and Aging Study is a longitudinal study that is evaluating a population of non-institutionalized women age 65 and older who have moderate to severe physical disability. Field work for this study began in November 1992. The cohort includes a representative sample of older women and of black women from Baltimore, Maryland. The baseline assessments are expected to be completed over an 18-month period with the follow-up data collection and analyses to continue through February 1998. The overall goal is to understand the causes and course of physical disability in older women living in the community. The study will focus on defining those diseases and conditions responsible for disability, as well as gaining an understanding of the progression of disability and how it is influenced by underlying disease.

NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM (NIAAA)

Alcohol abuse and alcohol dependence are serious problems affecting approximately 15 million adult Americans and several million adolescents and children. Annually, at least 100,000 deaths in the United States can be attributed to alcohol-related causes. NIAAA is the lead Federal agency for research on the causes, consequences, treatment, and prevention of alcohol-related problems. All research supported by NIAAA potentially is relevant to prevention, but the Institute recognizes a special need to encourage research that specifically addresses prevention.

NIAAA Prevention Highlights

Prevention Research Center (PRC). The Prevention Research Center in Berkeley, California, is the NIAAA national research center dedicated to the prevention of alcohol problems. PRC undertakes both basic and applied research to identify risk factors for alcohol abuse as well as preventive interventions. The PRC utilizes a public health systems model as a means to understand the social and physical environments that influence alcohol use and abuse. PRC research focuses on family drinking patterns and influences in blue collar as well as Mexican American families; the role of family, peers, and the mass media in adolescent drinking initiation and patterns; drinking associated with the workplace; environmental and systems factors that increase community alcohol problems; and the contribution of drinking to violence. PRC has undertaken a series of studies examining effects of existing regulations and law enforcement on alcohol availability.

PRC is currently engaged in a long-term community prevention trial of strategies to reduce alcohol-involved injuries and deaths in two communities in California and one in South Carolina, with matched control community for each experimental site. The comprehensive set of interventions includes server training, increased law enforcement, public education, reduced access to alcohol by underage persons, and changes in local zoning for alcohol outlets. These interventions will be tracked for 3 years, followed by a year of evaluation and institutionalization of these programs in each experimental community.

Prevention Research Branch (PRB). The Prevention Research Branch within NIAAA stimulates, monitors, reviews, and evaluates extramural research on the prevention of alcohol-related problems, and provides technical assistance to potential applicants. The grant portfolio includes studies of preintervention research issues (e.g., risk and protective factors, decision-making processes, and measuring instruments) as well as studies that test the effectiveness of single or multiple prevention strategies.

Youth and Young Adults. NIAAA-supported projects are studying the developmental sequence of alcohol use within adolescent populations, risk and protective factors, alcohol expectancies and beliefs, and norm setting and norm enforcement by parents, schools, peer groups, health care providers, and the community. Family influences have been identified as key factors in adolescent drinking, and interventions that target the family are being tested. School-based social skills-training interventions have been effective in preventing alcohol use among high-risk youth; and school programs that include family and community components are being evaluated.

Minority Issues. In 1993 the Prevention Research Branch issued a new program announcement for research on the prevention of alcohol-related problems among ethnic minorities.

Currently, NIAAA and CSAP are supporting studies that focus on protective and risk factors for alcohol abuse among African American adolescents; alcohol abuse and anti-social personality disorders among Navajos; and the development of culturally appropriate preventive interventions for Mexican-Americans.

NIAAA continues to fund an examination of the effects of cultural change on the drinking practices of Mexican Americans. Results indicate that Mexican American women may be important implementors of prevention strategies, since they may play special roles in helping to reduce alcohol problems among family and friends. A major finding from a study on culture predictors of drinking behaviors among blacks and whites is that race is not directly associated with alcohol-related problems. However, race indirectly affects drinking behaviors through its association with socioeconomic status and attitudes toward drinking.

Alcohol and AIDS. Researchers are studying both correlative and causal relationships between alcohol use and unsafe sexual practices related to HIV transmission. Current studies include pre-intervention and intervention research on diverse gay and heterosexual populations. The involvement of alcohol in risky behavior is being studied through ethnographic interviews with adolescents, diary and daily log methods, and population surveys. Interventions are being tested through random assignment of individuals to theory-based conditions. Prevention strategies include counseling, interactive school-based programs, and community-oriented interventions. NIAAA-supported research has found that teens who report heavy alcohol use take greater sexual risks; that increased alcohol consumption [illegible] with new partners; and that sexual and drinking behaviors differ among racial and ethnic groups.

Alcohol and Women. Results of [illegible] the efficacy of specially designed alcohol abuse prevention strategies for professional and business women indicate that providing small amounts of information over a long period of time is an effective intervention for this target group. Among these women, social context is an important predictor of women's drinking behavior. Another project is developing and evaluating a multicomponent preventive intervention to increase abstinence during pregnancy among economically disadvantaged women. A third study is examining factors that influence beliefs about alcohol use during pregnancy, and how these beliefs and other moderation variables influence drinking behaviors of pregnant women. Women's issues are also addressed in studies concerned with violence and warning labels. At a workshop in the fall of 1993, a research agenda for the prevention of alcohol-related problems among women was developed.

Community/Environmental Issues. NIAAA and the Center for Substance Abuse Prevention at SAMHSA are jointly sponsoring two community-based prevention trials that test the effectiveness of community-based, multifaceted, integrated programs for preventing alcohol-related problems. One study is a random-assignment trial of interventions aimed at reducing youth access to alcoholic beverages. The other is an efficacy trial of interventions to reduce alcohol-related trauma in two matched pairs of communities. Both studies focus on changing the practices of major community institutions and implementing multifaceted, coordinated packages of intervention efforts. Additional community studies funded solely by NIAAA include an efficacy trial to reduce trauma, an adolescent-focused prevention program, and a trial to reduce drinking and driving.

Aging. NIAAA encourages research to develop methodologies appropriate for research on older adults, to elucidate patterns of alcohol use and abuse, to identify risk and protective factors, and to develop relevant primary and secondary interventions. Two research issues of special concern are late onset alcohol abuse and moderate drinking that places the individual at risk for alcohol-related problems due to health conditions, medication interactions, decreased alcohol tolerance, or activities requiring motor skills. Two NIAAA-funded studies are analyzing existing longitudinal data and collecting prospective data to describe temporal patterns of alcohol and medication use, identify predictors of abuse, and assess the moderating roles of living accommodations and other social factors. Both studies will be valuable aids in designing interventions.

Primary Care. Primary care settings are being used to identify individuals and groups who may benefit from alcohol prevention strategies. The effectiveness of brief interventions in these settings is under investigation, such as motivational counseling and didactic, media-based, and self-instructional interventions. Outcome measures include changes in current drinking patterns, modification of alcohol-related intentions or health beliefs, and increases in perceived self-efficacy and self-control.

Worksite Issues. Several new studies focus on causal factors and prevention approaches to alcohol problems at the worksite. This research examines links between job characteristics, work environment, and alcohol-related problems. Researchers study mediating factors, such as stress and alienation, and moderating factors, such as the alcohol culture of the work setting, the presence of employee assistance programs (EAPs), social support, and marital discord.

At corporate, worksite, and workgroup levels, researchers explore how social control systems form, sustain, and enforce work-related drinking norms and practices. They also examine how organizational policies and informal controls may be used to discourage drinking. Other studies assess how much attitudes of key worksite personnel influence EAPs, the comparative effectiveness of locating intervention programs within or outside work settings, and the influence of the social environment and social support on the effectiveness of workplace interventions.

Economic Issues. The price and availability of beverage alcohol have been studied as predictors of per capita alcohol consumption, traffic crashes, and cirrhosis mortality rates. Studies have also considered econometric models of addictive behavior, the effects of alcohol consumption on labor force outcomes, optimal taxation, and the effects of advertising.

Intentional and Unintentional Injuries. A significant proportion of violent events and traumatic injuries are associated with alcohol use. Through a new program announcement issued in 1993, NIAAA is encouraging research on biological and psychosocial mechanisms underlying linkages between al-

cohol consumption and interpersonal violence. Two ongoing studies are examining the reciprocal effects of alcohol abuse and family violence. One study focuses on the contribution of childhood violence and violence by husbands to the development of alcohol problems in women. The other tests the hypothesis that childhood victimization is a significant risk factor for the development of alcohol problems in both males and females. Research on unintentional injury includes studies of interventions designed to reduce drinking and driving, and a national survey examining the contribution of alcohol to drownings and the impact of drinking-boating laws.

Warning Labels. Survey-based warning label studies have examined changes in label awareness, knowledge of hazards described, perceptions of risk levels, and alcohol-related behavior. Researchers have focused on various populations, including the general population of adults, black women seeking prenatal care, urban Hispanics, and youth. Laboratory studies concentrating on label design factors have investigated such features as message location and visibility.

Future Directions. Investigators are completing a generic model of systematic research phases for alcohol prevention studies, including basic and applied research components. The model is relevant to investigator-initiated interventions and to "natural experiments," which are generally policy driven. Special foci for future research initiatives include the prevention of alcohol-related violence, the prevention of alcohol-related problems among women, and the effects of advertising and media strategies on drinking behavior.

The PRB has completed for publication seven edited monographs concerning research methods, economic issues, high-risk youth, prevention strategies for adolescents, violence, marketing and media effects, and ethnic minorities.

NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES (NIAID)

The National Institute of Allergy and Infectious Diseases (NIAID) conducts and supports research contributing to a better understanding of the causes of allergic, immunologic, and infectious diseases and the processes involved in the transmission and development of the diseases. The ultimate goal is the development of better means for prevention, diagnosis, and treatment. In much of its prevention research, NIAID regularly collaborates with other Federal agencies, international and research organizations, and industry.

NIAID Prevention Highlights

Children's Vaccine Initiative. The Children's Vaccine Initiative (CVI) is an international effort to develop new and improved children's vaccines that are safer, more effective, cheaper, and easier to administer. The ultimate goal of the CVI is to develop a single, heat stable, oral vaccine that will provide lifelong immunity to the major infectious diseases of childhood. NIAID's research on new and improved vaccines that will protect against specific priority diseases is potentially applicable for use in universal childhood immunization programs.

The need for improved immunization against rubella has been demonstrated by recent outbreaks of rubella and measles in the United States as well as a report by the Institute of Medicine (IOM) on the adverse effects of the existing rubella vaccine. The report cited evidence that receipt of the RA 27/3 rubella vaccine is causally associated with acute arthritis, as well as limited evidence that it is associated with chronic arthritis. NIAID-supported researchers made significant progress toward an improved vaccine by developing a DNA clone of the rubella virus. This advance will provide the tools to develop a new engineered recombinant vaccine that will not cause arthritis.

Immunization programs using the two forms of polio vaccines currently licensed in the United States may soon lead to eradication of paralytic polio. However, concerns about reversion to neurovirulence and vaccine delivery problems, such as the need for continuous refrigeration, have prompted NIAID research efforts to attempt to improve and create safer polio vaccines. NIAID-supported investigators replicated polio viruses in a cell-free, test tube system. This advance will allow scientists to study the biochemical and genetic properties of the virus and represents the first demonstration of *in vitro* synthesis of a self-replicating virus. Another research team developed a transgenic mouse model that is susceptible to the human poliovirus and can develop paralytic disease. This model is being used to understand the pathogenesis of the polio vaccine's neurovirulence, which is an important step in the potential development of a safer vaccine.

NIAID is supporting a major initiative to develop a vaccine to protect newborn infants against group B streptococcal (GBS) infections, the most common cause of sickness and death related to neonatal infection in this country. Immunization of infants is impractical for the prevention of GBS disease because most infections occur shortly after birth. However, immunization of women to stimulate maternal antibodies to protect the newborn is an alternative approach. NIAID is supporting the development of GBS glycoconjugate vaccines for immunizing pregnant women. A type III conjugated to tetanus toxoid vaccine is currently being evaluated in phase I clinical trials.

Development of an HIV Vaccine. Before candidate HIV vaccines can be tested in humans, a large number of questions must be answered in animal models. One barrier to this effort is that HIV will cause disease only in humans. Therefore, researchers have examined in animals other virus-induced immunodeficiency diseases. One of the more useful animal models involves macaque monkeys infected with simian immunodeficiency virus (SIV), which duplicates many aspects of HIV in humans. Studies with the macaque monkey model showed that animals that had been successfully vaccinated against one strain of SIV using a whole, inactivated SIV vaccine also were protected against a second strain of the virus. In continuing studies with an inactivated SIV vaccine, researchers found that immunized macaques were protected from SIV 8 months after receiving a final booster dose. This finding suggests that long-lasting immunity can be induced by a vaccine without the continuous maintenance of peak immune response. Another study showed that a live recombinant vaccine administered with a subunit protein boost protected macaques from SIV, lending further support to a combination strategy for producing an HIV vaccine.

NIAID-supported researchers are developing another animal model that will add an invaluable resource for testing HIV vaccines. Studies are underway to determine whether mice with severe combined immune deficiency (SCID) reconstituted with human lymphocytes from uninfected people who received an HIV vaccine are protected from infection. This research also will help investigators determine the components of immunity that protect an organism from HIV infection.

An HIV vaccine must provide long-term protection as well as a broad immune response that involves both types of lymphocytes—T cells, which use cellular mechanisms, and B cells (which produce antibodies). Consequently, another important area in HIV vaccine research is the development of adjuvants, substances that can bolster these immune responses. NIAID-supported researchers are studying potent and novel vaccine adjuvants, including several based on different formulations of liposomes, lipid membrane particles that can be used to carry antigens. Other possible vaccine adjuvants involve the use of co-polymers to stimulate the production of abundant and long-lasting antibody responses by B cells, as well as formulations known as immune-stimulating complexes (ISCOMs), which seek to induce specific cytotoxic T cell responses to HIV envelope proteins. Another adjuvant formulation being evaluated for its potential to induce immunity is an analog of muramyl dipeptide derived from bacterial cell walls. When incorporated into an oil-in-water emulsion, this potential adjuvant induced significant antibody and cell-mediated responses to HIV antigens in small animals.

HIV Vaccine Trials. The NIAID's Vaccine Evaluation Units are evaluating eight different HIV vaccines, some of which are composed of the envelope proteins gp120 or gp160 found on the outer coat of the virus. These studies are evaluating the safety of the vaccines, determining whether the vaccines induce strong immune responses, and comparing responses to different doses of each vaccine. At this time, there are not sufficient data on any particular candidate vaccine to support an efficacy trial. However, several HIV vaccine approaches may produce such data within 1-2 years. Because of this possibility, NIAID is continuing to establish the necessary infrastructure for efficacy trials both domestically and internationally.

Tuberculosis. NIAID has formulated a comprehensive research agenda with support for basic research into the biology of TB, the development of new tools to diagnose TB, the development of new drugs or new ways to deliver standard drugs, clinical trials of anti-TB therapies, the development of new vaccines to prevent TB, training to increase the number of TB researchers, and new ways to educate health care workers and the public about TB prevention.

Current diagnostic tests to identify infected patients and to determine which drugs can be used for treatment take several weeks before results are available. Two NIAID-supported investigators have developed techniques for rapidly identifying TB and determining the drug susceptibility of TB isolates. The first assay is based on polymerase chain reaction (PCR) technology. PCR enables the amplification of very small amounts of DNA. The researcher identified a fragment of TB DNA, known as IS6110, that is unique to *M. tuberculosis* and then developed a PCR method to assay TB directly from clinical specimens, such as a sputum sample. The other assay uses luciferase, an enzyme that is part of the system that makes fireflies glow. The investigator constructed a mycobacteriophage (a bacterial virus specific for the TB microorganism) that contains the gene to produce luciferase and can be used to insert the luciferase gene into the TB bacterium. In the assay, the phage and luciferin are added to TB organisms from a patient specimen and an anti-TB drug. Using the investigator's system, light production would normally be seen within 15 minutes. However, if the organism is grown in the presence of an effective antibiotic, it will be killed and there will be no light production. Not only is this a rapid and sensitive method for detecting resistant strains, but because of its potential for automation, large numbers of samples could be processed in a short time. This assay can also be used for screening large numbers of potential anti-TB drugs.

Clinical trials conducted through the Terry Beirns Community Programs for Clinical Research on AIDS are evaluating the safety and efficacy of drugs to prevent active TB in patients co-infected with HIV and *M. tuberculosis*; determining whether a two-stage TB skin test is more reliable than a single-stage test in HIV-infected individuals; determining patterns of drug resistant TB among patients in AIDS clinical trials, and measuring the frequency of new TB infections among health care workers and volunteers at AIDS clinical trial sites.

Asthma. Asthma morbidity and mortality are known to be a function of many factors, such as the patient's physiology, environmental exposure to allergens, and access to medical care, as well as the quality of that care. However, it is not known to what degree these factors account for the significant differences in morbidity and mortality and whether other, unique factors contribute to the high rates of morbidity and mortality among blacks and Hispanics living in the inner city.

NIAID emphasizes research to identify and implement interventions for the treatment and prevention of asthma. Institute-supported scientists are conducting a carefully controlled clinical trial to test the value of allergic immunotherapy in the treatment of childhood asthma. Another study that may have implications for the treatment of asthma is an examination of the relationship between the disease and exposure to certain allergens (allergy-causing substances). Although house-dust-mite allergens generally have been thought to play a role in the initiation of an asthma attack, NIAID-supported scientists recently found that early childhood exposure to these substances also contributes to the actual development of the disease.

NIAID is also supporting research to uncover and understand the mechanisms that induce occupational or environmental asthma. Among these efforts is the provision of funding to the Institute of Medicine for a 2-year study to examine the nature, scope, and causes of adverse effects on human health caused by indoor allergens.

To address the increasingly serious problem of asthma in minority children living in urban areas, NIAID has funded eight groups from seven cities to conduct the National Cooperative Inner City Asthma Study. The first phase of this study will identify factors, particularly behavioral factors, that are contributing to increases in morbidity and mortality from asthma among minority children in inner cities. In the second phase, the identified factors will form the basis of a multicenter clinical trial to develop and evaluate behavioral and social approaches to reducing these rising asthma rates.

Another program sponsored by NIAID to reduce asthma morbidity and mortality among blacks and other minority

groups involves the Asthma Education Program for Hospitalized Inner-City Children, which is funded under the Institute's Centers for Interdisciplinary Research on Immunologic Diseases. The study tested a self-management education program designed to help hospitalized asthmatic children control acute episodes of their disease. The study found that the education program increased the children's knowledge of the early warning signs of acute asthma, their sense of personal control, and their use of self-management techniques for acute asthma episodes. The program also decreased the children's use of emergency hospital services. In addition, NIAID's Asthma and Allergic Disease Cooperative Research Centers, as well as its Immunologic Disease Cooperative Research Centers, are exploring ways to reduce the severity and incidence of asthma in minority populations through outreach, demonstration, and education programs in inner cities.

Transplantation. Successful transplantation requires that the organ being introduced is not recognized as foreign. This recognition is based on major histocompatibility complex (MHS) antigens proteins located on cell surfaces that identify what is uniquely sent to the immune system. NIAID supports research to characterize histocompatibility antigens and to determine the manner in which they condition responses to transplanted organs and tissue. Institute-supported researchers recently found that when transplant patients have a certain histocompatibility antigen (DRw52), they are particularly able to recognize any donor organ as being foreign and thus are more likely to mount a reaction against the transplant. DRw52 is the first immune response gene to be mapped in humans and has broad implications for the ability to induce tolerance in transplant recipients.

NIAID-sponsored research is investigating the use of monoclonal antibodies directed against specific cells to prevent kidney graft rejection. In one study, scientists compared T10B9.1A-31, a monoclonal antibody developed to enhance tolerance of bone marrow transplants, with OKT3, the monoclonal antibody currently used to treat acute kidney graft rejection. They found that the new treatment was as effective as OKT3 in reversing acute graft rejections but had fewer and less severe side effects. Moreover, patients using T10B9.1A-31 had a lower incidence of infection than those using OKT3. One explanation for the greater success of T10B9.1A-31 is that it has less ability to stimulate immune responses such as the production of cytokines, chemicals that are known to have a role in graft rejection.

NIAID has initiated the first NIH multicenter cooperative clinical trial in kidney transplantation. The goal of this study is to translate some of the most recent developments in basic research into new immunosuppressive agents to prevent and control kidney transplant rejection. A network of eight centers throughout the United States will evaluate emerging potential treatments, which may incorporate the use of drugs, monoclonal antibody techniques, or biological interventions.

Bone marrow transplantation has the potential to cure a variety of diseases, including leukemia, lymphoma, congenital immune deficiencies, and metabolic disorders. A major obstacle in bone marrow transplantation continues to be graft-versus-host disease (GVHD), which occurs in 40 to 80 percent of patients who have donors with identical matches for MHC antigens and almost totally prohibits the procedure in patients without compatible donors. A clinical trial conducted by NIAID-supported researchers has shown that more selective depletions of T cells (key contributors to immune defenses) with anti-T12 can prevent GVHD in most patients with identically matched donors without increased risk of graft failure. These findings indicate that selective depletions of T cells can prevent GVHD in a majority of patients and almost totally eliminate chronic GVHD following bone marrow transplant. Moreover, this *in vitro* treatment eliminates the need for additional immune suppressive therapy in most patients and appears to reduce the incidence of transplant-related toxicity and mortality.

Sexually Transmitted Diseases. In 1992, approximately 10 million people in the United States were diagnosed with a sexually transmitted disease (STD); it is estimated that 3 million infections occurred in teenagers. In fact, individuals younger than 25 years of age accounted for 63 percent of the cases. STD rates are highest among ethnic minorities of lower socioeconomic status. In all STDs, except HIV infection, complications and long-term sequelae disproportionately affect women and their infants. Furthermore, studies of the role of STDs in HIV transmission indicate that both ulcerative and non-ulcerative STDs increase risk of HIV transmission 3-5 fold, independent of the effect of sexual behavior.

NIAID has a comprehensive and multidisciplinary research agenda that is aimed at prevention and control of STDs. The agendas for primary, secondary, and tertiary prevention are based on (1) blocking transmission; (2) decreasing the duration of infection; and (3) ameliorating disease or interfering with disease progression.

Vaccines are strategically important for preventing both viral diseases for which there are no curative treatments and bacterial diseases for which antibiotic resistances are common or for which symptoms are so indolent that the patient neither seeks nor receives effective therapy. In addition to a strong basic research effort, including the Research on Molecular Immunology of STDs (ROMIS) Program Projects, NIAID is involved in Phase I testing of vaccines for genital herpes, chlamydia infection, and gonorrhea.

The development of rapid, inexpensive, easy-to-use diagnostic tests that are appropriate for resource-limited settings such as the inner cities of the United States are critical for the prevention and control of STDs. Such tests are particularly important for women because clinical algorithms based on recognition of symptoms are ineffective. NIAID is supporting research for a rapid test for bacterial vaginitis and for chlamydial infection, as well as a modification of the PAP smear screening test for human papillomavirus detection and typing.

Topical microbicides are chemical barriers, designed for intravaginal use, which will inactivate sexually transmitted viral, bacterial, and protozoan agents. Ideally, these compounds will have no inherent toxicity or spermicidal activity and may be used without partner knowledge or consent. The NIAID supports basic research related to this area as well as a growing portfolio of applied/basic research.

NIAID supports an integrated behavioral research effort that targets decreasing behaviors that increase risk for STD acquisition, duration, and progression, and increasing health promotion behaviors. The research effort is intervention oriented and integrates a microbiological or disease outcome with a behavioral outcome. The growing portfolio targets high-risk populations, including adolescents, women, and those of lower socioeconomic strata.

NATIONAL INSTITUTE OF ARTHRITIS AND MUSCULOSKELETAL AND SKIN DISEASES (NIAMS)

NIAMS conducts and supports research on the numerous forms of arthritis, diseases of the musculoskeletal system, and diseases of the skin as well as on the normal structure and function of joints, muscles, bone, and skin. The impact of dysfunction in the areas of arthritis and musculoskeletal and skin diseases is profound. These disorders include sequelae of trauma, congenital defects, inborn errors of metabolism, and inflammatory and degenerative forms of arthritis. They span the entire life cycle and are the main cause of disability among members of the work force.

NIAMS Prevention Highlights

Osteoporosis. For osteoporosis, prevention begins before the onset of disease, when calcium supplementation, exercise, and other behavior modifications can result in strengthening bone or diminishing bone loss. Epidemiologic prospective studies have found a variety of life-style related factors that can progress to bone loss. These factors include lack of exercise, poor nutrition, cigarette smoking, excessive alcohol use, immobility, and certain drug treatments, such as corticosteroid and high thyroxine therapies. Investigators have demonstrated that weight-bearing exercise has a positive influence on bone mass. Longitudinal studies have shown that exercise training in post-menopausal women may either retard the rate of bone loss or increase the bone mass in appendicular and axial bone. Cross-sectional studies have found a positive association between activity and bone mass.

Studying prevention of falls, investigators have characterized both the endogenous and the exogenous risk factors for falls among the elderly. Endogenous factors include the use of medications, postural hypotension, slowed reaction times, reduced muscular strength, and vision loss. Exogenous factors include stair design, poor lighting, and environmental hazards. Simple, reliable tests have been developed to characterize individuals at risk for falls.

Researchers have shown that the etiology of hip fracture in individuals over 70 years of age is dominated by fall direction and impact site and is influenced to a lesser degree by trochanteric (lateral upper thigh) fat thickness and bone density. Vertebral fractures are more closely correlated with spinal bone density. Although vertebral fractures are less frequently the consequence of trauma, current evidence suggests that spinal loading in the elderly during common daily activities such as lifting may be associated with spontaneous fracture.

Vitamin D analogs can help prevent loss of bone density resulting in osteoporosis. Modest increases in bone density may also occur, helping to reduce the risk of fracture. Researchers have also found that vitamin D therapy may ameliorate steroid-induced osteopenia.

Prospective controlled studies using bone densitometry have clearly shown that estrogen replacement therapy administered at or near menopause prevents bone loss that results from estrogen deficiency. Preventing this bone loss may decrease the number of osteoporosis-induced fractures. Researchers have developed methods to measure bone mass at sites of potential fractures. This progress has led to prospective research demonstrating that low bone mass at menopause is predictive of the occurrence of future fractures and can be used to select individuals for preventive intervention. Research has also shown that correcting low calcium intake can play a definite although limited role in reducing bone loss. In addition, calcium supplementation in early life may play a role in maximizing bone mass.

Osteoarthritis. Results from the Framingham study population suggest that weight change in women occurring in middle or later years affects the risk for subsequent symptomatic knee osteoarthritis. This effect was strongest in women whose baseline body mass index was high. Therefore, habitually overweight women can substantially and significantly lower their risk for symptomatic osteoarthritis by losing weight. The Framingham investigation found that weight loss, over a period of years, reduces by half the chance of developing osteoarthritis of the knee in women. The data suggest that overweight women should be counseled to lose weight.

Sports-Related Joint Injuries. Investigations of injuries to ligaments and menisci have linked certain sports with increased risk of injury to specific joints, leading to possible ways to prevent or limit these injuries. Other investigations have established that there is an increased risk of arthritic change after ligament and meniscus injury. Studies have demonstrated the repair potential of ligaments, menisci, and other soft tissue and have shown that ligament repair and reconstruction may prevent subsequent meniscal injury and arthritis. Additional studies of the epidemiology of sport-related injuries, such as assessing the influence of equipment and playing surface, have shown reduction in the incidence of ankle fracture.

Muscle and Tendon Damage. Advances in exercise include the use of isometrics to maintain and increase muscle strength among the elderly and to ameliorate or prevent atrophy associated with corticosteroid therapy, zero gravity, and immobilization. Strength training in the elderly leads to increases in muscle thickness and the near doubling of lower extremity strength. This training could help prevent falls and reduce disability among the population most at risk for hip fracture. Other studies indicate that patients who receive corticosteroid therapy and participate in prescribed exercise programs have better treatment outcomes, including less atrophy, than those who receive corticosteroid treatment and do not exercise. In addition, investigators have shown that isometric exercise programs partially prevent external muscle atrophy among astronauts.

Repetitive Motion Joint Injury. Model studies have shown that fatigue, weakness, and lack of warm-up may predispose muscle to injury, thus indicating that fitness, strength, and warm-up may help prevent injury. Atrophic changes in muscle after disuse or injury have been shown to depend on muscle electrical activity and the duration of immobilization. Muscle tension induced by stretching prevents some of the disuse changes, may lead to new muscle protein synthesis, and can prevent contracture. Numerous related studies of electrical muscle stimulation in orthopedic conditions are not conclusive.

Investigations of overuse or repetitive motion injury have revealed the involvement of a variety of pathological processes. Researchers have observed degenerative regions within tendons and have found causes of pain, including inflammatory conditions involving tendon sheaths and bursae. They have also observed inflammatory and fibrotic responses to repetitive injury that may mechanically compress or alter blood supply to a nerve.

Systemic Lupus Erythematosus. Systemic lupus erythematosus (SLE) is a chronic inflammatory disease of unknown cause with a variety of clinical manifestations. According to many studies, blacks with lupus appear to have onset at younger ages, and with more severe manifestation than whites with SLE.

NIAMS continues to work with the Task Force on Lupus in High-Risk Population in developing educational strategies directed to patients, the public, and health professionals that may help improve the outcome of lupus in populations at increased risk for the disease. The task force has launched a campaign entitled "What Black Women Should Know About Lupus," which encourages young black women to see a doctor or other health worker if they have a continuation of key symptoms. The task force plans to expand the campaign and is working with black health professional organizations to reach this audience.

Prevention of Skin Diseases. Research has clearly linked ultraviolet (UV) light exposure to skin cancer and has established specific guidelines for protection regarding wavelength, time of day, and sunscreens. Investigators have also linked familial atypical moles (previously termed dysplastic nevi) with an increased risk of melanomas and have identified early aggressive steps to prevent the development of more serious conditions.

NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT (NICHD)

Many health problems that afflict adults originate before birth or in childhood. Thus, the early stages of life offer exceptional opportunities to prevent both physical and psychological disorders and disabilities that can affect people at any time in their lives. The concept of prevention is the catalyst driving much of the National Institute of Child Health and Human Development's (NICHD) research program. Virtually every aspect of the Institute's research is designed to prevent or ameliorate disease or disability. Some of this is direct prevention such as developing a vaccine to prevent life-threatening disease; some is designed to facilitate the application of research findings to patient care, including various aspects of family planning. The research program of the NICHD is multidisciplinary and ranges from studying molecular biology to understanding the motivations driving human behavior to developing the means to restore or enhance function in individuals with a physical disability.

NICHD Prevention Highlights

Minority Health Interventions. NICHD is providing scientific, technical, and administrative management of grants designed to develop, implement and evaluate a cooperative program of community-based health and behavioral interventions to lower the high rates of morbidity and mortality among minority youth. The overall goal of this program is to encourage healthy behaviors and to help reduce the number of violence-related injuries and deaths, the incidence of sexually transmitted diseases (STDs), and the number of unintended pregnancies in minority youth ages 10–24. All projects stress the importance of targeting interventions to the specific needs of a particular community.

NICHD has translated into Spanish a brochure, *Pregnancy Basics*, to provide Hispanics with answers to many common pregnancy questions, such as those involving nutrition and weight gain, birth defects, fetal alcohol syndrome, smoking, and drug use.

Reproductive Behaviors. NICHD supports ongoing research on the social, cultural, economic, and psychological factors associated with behaviors that place individuals, particularly in high-risk populations, at risk for infection with HIV or other STDs. These studies highlight the decision-making processes that lead to high-risk versus protective behaviors and factors that facilitate behavioral change. Diverse research settings permit investigators to assess the influence of cultural, ethnic, and gender factors on behavior.

The choices that women and men make regarding their sexual conduct affect both their physical and mental health and their life outcomes. Researchers have shown that the early initiation of sexual activity is associated with early pregnancy and childbearing, poor contraceptive use, greater number of sexual partners, greater risk of STDs, and cervical cancer in women. To develop ways to prevent these negative outcomes, NICHD researchers are exploring factors that affect the timing of sexual activity, partner choice, the types of activity in which the couples engage, and their decision to use (or not use) protection against disease and/or unintended pregnancy.

Researchers are also trying to develop education programs to encourage parent-teen communication about premarital sexual intercourse and birth control. These studies will investigate the dynamics of such communication and identify variables in low-income black families that predict teen sexual behavior and inconsistent birth control use. Other NICHD studies will continue to examine motivational factors in birth planning to better understand what motivates women to have or prevent births, and to give researchers more sensitive methods for measuring these motivations. Researchers have found that improved motivational factors are effective predictors of contraceptive vigilance in a sample of sexually active, inner-city, adolescent girls.

Barrier and Oral Contraceptive Research. Since the advent of oral contraceptives, NICHD-supported researchers have been developing additional progestational components that can be used in synthesizing new progestins for oral contraceptives. Researchers have examined the estrogenic component of oral contraceptives and have recently developed active estradiol derivatives. These compounds are more active than compounds found in currently available products and can be administered orally, transdermally, and through injection. Because estrogens play a crucial role in contraceptive regimens and in hormone replacement therapy (HRT),

NICHD scientists continue to evaluate these new derivatives for safety and utility. NICHD also plans to evaluate the causes of dysfunctional uterine bleeding, a major problem in contraception and HRT, and ways to alleviate this condition.

NICHD-supported research has also evaluated the contraceptive potential of RU 486, a steroid that blocks progesterone [illegible] that RU 486 prevents pregnancy in guinea pigs, if given daily throughout the reproductive cycle. A [illegible] study in nonpregnant women shows that small daily doses of the compound prevent normal function and development of the endometrium, suggesting that RU 486 might also be used as an effective contraceptive in [illegible].

Another critical feature of NICHD's prevention research is its support of studies [illegible] contraceptives, such as condoms, diaphragms, and spermicides, to prevent the spread of STDs. In terms of barrier contraceptives for men, NICHD has supported attempts to improve condoms by grafting fluorocarbons onto the existing latex condom—a process that is being introduced by a well-known condom manufacturer. Researchers are also developing a new generation of condoms made from polyurethane, which in theory are stronger than latex and could be manufactured with thinner walls. Condom preference studies suggest that men prefer [illegible].

The development of new and improved barrier methods for [illegible] is particularly [illegible] against STDs, including HIV infection. Specific data are still lacking on the efficacy of spermicidal preparations in preventing HIV. NICHD is sponsoring research to develop chemical agents that may inactivate spermatozoa and STD pathogens by mechanisms other than surfactance and products that may [illegible]. NICHD [illegible] leasing diaphragms.

The NICHD has also helped to pioneer a new barrier method for women, the female condom. This is a loose-fitting [illegible] diaphragm) for insertion. Private industry efforts are underway to market the vaginal pouch. Additional efficacy data (in terms of preventing pregnancy and STDs) must be sought comparing the vaginal pouch with the condom and other barrier methods available to women. Researchers are also interested in understanding the behavioral components, including attitudes and practices, that will influence the effective use of the new barrier device.

Potential Treatments for Decreasing Maternal Transmission of HIV Infection. NICHD has demonstrated, in collaboration with other researchers, a preliminary link between the degree of immune dysfunction in HIV-infected pregnant women and the risk of transmitting HIV to the fetus/child: the more immune-compromised the mother, the more likely it is that she will transmit her infection to her child. Other studies are exploring the role of the placenta in the transmission of HIV from mother to child. NICHD also continues to participate, with the NIAID, in the Women and Infants Transmission Study that focuses on the biological determinants of maternal-child transmission of HIV infection.

NICHD has participated in developing two research protocols to study agents that may decrease the transmission of HIV from pregnant infected women to their offspring. ACTG protocol 076 studies the effect of AZT in preventing or decreasing the transmission of HIV from mother to fetus/child. Researchers in the ACTG 185 protocol will study whether anti-HIV-specific hyper-immune globulin decreases this transmission in women who are infected and receiving AZT.

Vaccine Development. NICHD has a vaccine research program targeting studies in the pathogenesis of and protective immunity to bacterial diseases, especially those of infants and children. NICHD researchers are developing conjugate vaccines, which combine polysaccharide antigens from bacterial capsules with highly immunogenic proteins, making them more effective with fewer side-effects. These characteristics make conjugate vaccines highly desirable for use in infants, whose immune systems are not well developed, or in immunocompromised individuals.

NICHD researchers were the first to develop a successful conjugate vaccine for *Haemophilus influenzae* type B (Hib) for use in children as young as 2 months. These vaccines are being credited with virtually eliminating Hib meningitis in this country. NICHD has successfully tested a new acellular pertussis vaccine, which has been shown to be 95-percent effective in a Swedish population, with fewer side-effects than the whole cell vaccine. Researchers have also developed a vaccine against *Cryptococcus neoformans*, which causes a life-threatening meningoencephalitis in approximately 8 percent of AIDS patients. Phase 2 clinical trials are under way to test the vaccine in this population.

NICHD researchers are using the novel conjugate technology to develop vaccines for bacillary dysentery, shigellosis, cholera, and hospital-acquired bacteremia. Clinical trials are planned to test the effectiveness of a new typhoid vaccine for infants and children under age 2. Studies are also underway that should lead to trials where mothers will be immunized, immediately postpartum, with a rotavirus vaccine to help protect breast-fed infants from serious diarrhea. Perhaps most notable are the NICHD's attempts to use the capsular polysaccharides of *Mycobacterium tuberculosis* to formulate a new conjugate vaccine for pulmonary tuberculosis.

Other Behavioral Profiles for Individuals at Risk. Little is known about a spectrum of ingestion disorders that include anorexia, bulimia, overeating, and choosing hypercaloric diets of poor nutritional value. Learning more about the behavioral profiles of children and adolescents at risk for these eating disorders and understanding how the impoverished nutrient intake associated with these behaviors affects brain function and behavior is being studied.

Many adolescents place themselves at additional risk by ingesting anabolic steroids and growth hormones to enhance their athletic performance and improve body physique. To prevent long-term physical and psychological harm, investigators are attempting to identify the behavioral profile of individuals at risk for these behaviors. This initiative will also document how ingesting supra-pharmacologic doses of anabolic steroids may produce behavioral effects, such as aggression, rage, and violence.

NATIONAL INSTITUTE ON DRUG ABUSE (NIDA)

The National Institute on Drug Abuse (NIDA) is the Federal agency with primary responsibility for research on the epidemiology, etiology, prevention, and treatment of drug use and abuse. Through its Division of Epidemiology and Prevention Research, NIDA sponsors a national research program to develop new scientific knowledge through national incidence and prevalence studies of drug use and abuse; etiologic research to identify social, environmental, and biological risk factors to drug use onset progression; natural history studies to assess the developmental course of drug use onset, progression, and consequences; and controlled preventive intervention research to determine the effectiveness of drug prevention strategies implemented in settings such as the family, school, neighborhood, and workplace. NIDA transfers prevention research knowledge to prevention practitioners through peer-reviewed research monographs, national conferences, consensus review of research findings by scientific experts, media-based special programs, and distribution of research findings through the National Clearinghouse for Alcohol and Drug Information, and NIDA's communication office.

NIDA Prevention Highlights

Epidemiologic Research. Through its national epidemiologic research program, NIDA has developed innovative survey methodologies to collect accurate information on the incidence and prevalence of drug use, abuse, morbidity, and mortality. The National Household Survey on Drug Abuse provides prevalence measures for the use of drugs reported by respondents aged 12 and older from households. The 1991 survey reported that 12.8 million Americans used an illicit drug in the past month, a 44-percent decrease from use in 1985; cocaine users dropped 67 percent from 5.8 million to 1.9 million. In October 1992, this survey was transferred from NIDA to SAMHSA. To gather information on subpopulations not in households, NIDA has initiated research to estimate drug use levels among people in other institutional settings and people without a fixed address. For example, the Washington, DC, Metropolitan Area Drug Study, which began in February 1991, includes 16 substudies of hard-to-reach populations, such as the homeless and transient, school dropouts, adult and juvenile offenders, pregnant drug users, and current drug users who may or may not be in treatment.

Data from the 1990 High School Senior Survey indicate that for the first time since the survey was initiated in 1975, less than 50 percent (47.9 percent) of high school seniors reported having tried an illicit drug. This is a significant drop from the peak of 65.8 percent in 1982. The 1991 survey found that use of cocaine in the past year by high school seniors dropped from 5.3 percent in 1990 to 3.5 percent in 1991. Monthly use of cocaine dropped from 1.9 percent in 1990 to 1.4 percent in 1991. Because of concerns about younger students, NIDA expanded the survey in the 1990-91 school year to include a comparable sample of students in 8th and 10th grades.

Researchers at the University of Michigan indicate that the decline in the use of marijuana and cocaine was associated with an increase in the perception of social disapproval of drug use and an increase in the perception of its harmful consequences. These data suggest that prevention approaches may have contributed substantially to downward trends in drug use.

Prevention Intervention Research. NIDA supports controlled research of several drug prevention programs. Assessment of this research using meta-analysis techniques demonstrates that school-based drug education programs that include drug information, peer resistance training, positive peer role models, and promotion of anti-drug social norms do reduce alcohol, cigarette, and marijuana use and that alternative prevention programs appear to be effective with high-risk youth. Researchers test preventive strategies for their ability to develop and maintain (1) behavior skills, such as self-monitoring, goal setting, and self-incentives, (2) cognitive structures, such as self-efficacy and intrinsic motivation, (3) perceptions of harmful consequences of drug use and abuse, (4) awareness of social disapproval of drug use and abuse, (5) affective and emotive impulse controls, (6) heightened concentration skills, and (7) increased interpersonal skills.

Prevention research assesses how to structure and strengthen social environments to promote positive, self-regulated health behavior. NIDA researchers test strategies that use combinations of mass media, schools, family, peers, social networks, and health policies both to shape and reinforce self-regulated behavior change.

NIDA supports prevention research to develop and test models of community and environmental change that use existing community leaders and organizations to deliver effective drug education messages, encourage environmental change, promote drug-free norms, and establish community prevention coalitions, particularly within high-risk neighborhoods. Prevention research attempts to determine the most effective techniques for community change. Research is needed to assess the efficacy of grassroots community coalitions formed to rid their neighborhoods of open-air drug markets and crack houses.

NIDA supports prevention research to determine how drug-free policies and legislation can enhance the effects of comprehensive drug prevention activities in schools, families, and community agencies. NIDA's prevention research program supports methodological studies that develop and improve research designs, measurement instruments, and statistical methods to improve the scientific knowledge base for drug abuse prevention. Process research documents the theory, context, nature, and intensity of intervention implementation. Outcome research assesses the efficacy of preventive interventions through controlled clinical trails or rigorous quasi-experimental research designs. Impact research tests the cumulative effectiveness of comprehensive drug prevention interventions implemented under real-world constraints and conditions and measured at the community level. The School-based Prevention Intervention Research assesses the efficacy of school-based drug education programs.

Comprehensive Prevention Research in Drug Abuse. This research assesses the efficacy of multiple component prevention intervention programs focused on the individual, family, school, workplace, and community.

Drug Abuse Prevention Research Centers. Research centers established under this program design and test culturally and ethnically sensitive theory-based preventive interventions. Collaborations of community-based leaders and multidisciplinary [illegible] are appropriate for the community. NIDA currently supports four prevention research centers.

NIDA Prevention Research Centers. The University of Kentucky Center for Prevention Research at Lexington was established [illegible] to design [illegible] NIDA [illegible] projects [illegible] and dopamine response in rats; a mass media communications study testing public service announcements designed for sensation-[illegible] primary school-based prevention program by police officers. [illegible] among the elderly and two community epidemiological studies [illegible] Lexington and Louisville. The center also is conducting research [illegible] for Substance Abuse Prevention's Community Partnership grants, which fund community prevention programs.

The Tri-Ethnic Center for Prevention Research at [illegible] to be a national resource for drug abuse prevention research [illegible] eral ethnic populations and high-risk subpopulations: dropouts and students with academic problems, and delinquents suffering from violence and victimization. Several projects [illegible] American and Native American youths. Researchers also are looking at the social, psychological, and cultural correlates of [illegible] menting, and evaluating community-wide prevention programs and special programs aimed at high-risk youths.

The AIDS Prevention Minority Research Center, Columbia University School of Social Work, New York City, has [illegible] AIDS [illegible] African American and Hispanic American youths by reducing [illegible] ducting prevention activities among the target populations in all five boroughs of New York City as well as in nearby New Jersey. The center has been developing and testing culturally sensitive interventions, such as an AIDS self-instructional guide that uses a comic-book format with a rap music rhyming [illegible] AIDS is contracted and how [illegible] their behavior. The interventions, which stress elements of ethnic pride, help youths to develop the problem-solving, decision-making, coping, and communications skills they need to respond to high-risk situations.

The Minority Drug Abuse Prevention Research Center, Cornell University Medical College, New York City, NIDA's newest center, was funded at the end of 1991 to explore ways to prevent drug abuse among minority populations. The center formalizes a long-standing collaborative relationship among the AIDS prevention center and the American Health Foundation, a nonprofit corporation with extensive experience in health promotion research. Initially, these research groups will take promising prevention strategies and test and refine them for African American and Hispanic American youths. In subsequent years, the research focus will broaden to include both younger and older age groups and other minorities, such as Asian Americans. Interventions will be delivered initially through community organizations, housing projects, and homeless shelters.

NATIONAL INSTITUTE ON DEAFNESS AND OTHER COMMUNICATION DISORDER (NIDCD)

The National Institute on Deafness and Other Communication Disorder conducts and supports research and research training on normal mechanisms as well as diseases and disorders of hearing, balance, smell, taste, voice, speech, and language. NIDCD achieves its mission through a wide range of research performed in its own laboratories, a program of research grants, individual and institutional research training awards, career development awards, center grants, and contracts to public and private research institutions and organizations. NIDCD also conducts and supports research and research training that is related to disease prevention and health promotion. NIDCD addresses special biomedical and behavioral problems associated with people who have communication impairments or disorders. NIDCD supports efforts to create devices that substitute for lost and impaired sensory and communication functions. NIDCD is committed to understanding how certain diseases may affect women, men, and members of minority populations differently. To ensure public dissemination of research information, NIDCD has established a mandated national clearinghouse of information and resources on the normal and disordered mechanisms of human communication. The NIDCD Clearinghouse collects information on NIDCD's seven basic research areas and disseminates it to health professionals, patients, industry, and the public.

NIDCD Prevention Highlights

Genetic Hearing Impairment. For the first, a chromosomal location of a gene for nonsyndromic hearing impairment has been found. A team of investigators has located the gene responsible for transmission of a form of hearing impairment using a large kindred in Costa Rica in whom hearing impairment develops late in childhood and becomes severe between the ages of 30 and 40. The gene is on the long arm of chromosome 5. Further chemical characterization of the gene and studies of its protein products may open new vistas for prevention as the expression of the gene is studied for its effects throughout the life cycle of the auditory sensory cells.

Presbycusis. Understanding neurochemical contributions to the pathogenesis of this progressive hearing loss disease has important clinical implications for presbycusis patients since chemical faults may underlie both peripheral and central manifestations. In studies using aged rats as an animal model, investigators found lower levels of the neurotransmitter

gamma-aminobutyric (GABA) and its receptors in auditory nuclei. Of special interest are the mechanisms for these chemical imbalances, with implications for both remediation and prevention.

Language Disorders in Children. Approximately two-thirds of children identified as late or slow talkers before the age of 2 show continued delays in expressive language at age 3, and more than half see those deficits persist to age 4. Such findings indicate that while some children do outgrow their delays in the preschool period, a substantial portion do not. It is known that the risk of learning disabilities for children with language delays at age 4 is very high. Thus, for that half of the late talkers population who do not outgrow their slow start by age 4, the chances of having serious problems in learning to read, write, and spell are great. Such findings strongly suggest that failure to begin talking by age 2 constitutes a hazard that ought to be addressed through early intervention, which may serve as a preventive measure for avoiding later learning disabilities.

Balance and Vestibular Disorders. The vestibular system, working in concert with other sensory and motor systems of the human body, controls the postural adjustments that the organism must make to maintain balance. Research is ongoing to understand the adaptive capabilities of the postural and visual stabilizing reflexes in patients with imbalance in order to guide interventions aimed at reducing disabilities associated with vestibular disorders (e.g., unsteadiness, falls, degraded visual acuity). The beneficial effects of even brief periods of certain physical exercises on the postural stability of patients recovering from unilateral vestibular loss have been demonstrated. The position of the head relative to the axis of head rotatory movement has been shown to influence adaptation of the vestibulo-ocular reflex. In addition, a new quantitative technique has been devised to study the effects of interventions (e.g., induced vestibular reflex adaptation, vestibular exercises) on gaze stability. These advances will have important implications for planning programs of physical rehabilitation for patients with balance and vestibular disorders.

Noise-Induced Hearing Loss. Noise-induced hearing loss, which is often preventable, affects some 10 million Americans. The National Institute on Deafness and Other Communication Disorders produced a videotape and teacher's guide "I Love What I Hear!" for use with third through sixth graders designed both as a prevention message and as an introduction to the biology of hearing. To understand the mechanism of damage and the individual response to noise, investigators successfully grew auditory sensory cells from the basilar papilla, the hearing organ of the chick. Studies were conducted to elucidate the relationship between length of noise exposure and severity of damage, and the ability of the basilar papilla to regenerate sensory cells.

NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES (NIDDK)

The National Institute of Diabetes and Digestive and Kidney Diseases is responsible for a wide variety of research related to diabetes, endocrine, and metabolic disorders, diseases of the liver and digestive tract, nutrition, and diseases of the kidney, urinary tract, and blood.

NIDDK Prevention Highlights

Insulin-Dependent Diabetes Mellitus (IDDM): Progress Towards Primary Prevention. Progress has been made in seeking molecular genetic clues to IDDM; nevertheless, the genetic component to IDDM does not preclude a role for environmental variables that may precipitate this autoimmune disease, and which may be susceptible to preventive measures in those at high risk for development of IDDM. For example, similarities have been noted between components of insulin-secreting beta cells in the pancreas and certain viruses. In addition, a lower risk of IDDM has been noted in children breast fed for longer periods without breast milk substitutes. Antibodies to cows' milk albumin are more likely in children with IDDM, and these react with a beta-cell-specific surface protein. These findings suggest that elucidation of the initiating antigen(s) in IDDM will further the development of specific preventive measures. It is already known that oral administration of insulin can delay or prevent onset of diabetes in animal models of IDDM, and the search is on for other beta cell components with a similar potential.

Noninsulin-Dependent Diabetes Mellitus (NIDDM): Risk Factors and Preventive Strategies. High rates of obesity in minority populations correlate with the disproportionate impact of Type II diabetes (NIDDM) in these groups. In addition, the level of physical activity correlates inversely with the risk of NIDDM. The effect of exercise is most beneficial to those who are most obese. Preventive intervention with diet, physical activity, and behavior modification holds promise for those at risk for NIDDM based on genetic predisposition, insulin resistance, and reduced insulin synthesis. Although the research evidence for genetic susceptibility to NIDDM in minority groups in strong, it seems clear that diabetes is associated with increased body weight, abdominally distributed fat, and physical inactivity.

Obesity Development and Its Implications for Preventive Medicine. Obesity is a risk factor in 5 of the 10 leading causes of death in the United States, including the top 3 (heart disease, cancer, stroke). Importantly, these nutrition-related illnesses are preventable, perhaps even reversible, through behavioral and dietary means. One of the dangers of significant weight loss is gallstone formation; the prevention of gallstones is an active area of research.

Diabetes Research of Special Importance to Minority Populations. The report of the DHHS Secretary's Task Force on Black and Minority Health identified diabetes and its complications as one of six health problems responsible for excess mortality among U.S. minority populations. Numerous applied and clinical studies are expected to provide the tools to reduce the excessive diabetes morbidity and mortality among minority populations—all of whom are disproportionately affected by the disease. The role of environmental factors in diabetes is well established and the familial tendency for Type II diabetes could be due in part to intra-familial similarity in diabetes-facilitating patterns. Successful modification of lifestyle

factors in high-risk populations can help greatly in the reduction of diabetes morbidity and mortality.

Studies With the Pima Indians. For more than 25 years NIDDK, and recently other NIH institutes, have conducted an extensive research program on Type II diabetes in the Pima Indians in the Gila River Reservation in Arizona, a community that has the highest rate of diabetes in the world. A cross-sectional and longitudinal study ongoing since 1982 is now recording the metabolic characteristics that are predictive of the development of diabetes in this group. It documents the sequence of metabolic events that occur during the transition from normal to impaired glucose tolerance and thence to diabetes. Data obtained to date suggest that insulin resistance is a primary abnormality predisposing Pima Indians to develop impaired glucose tolerance; the development of frank diabetes occurs with subsequent pancreatic failure.

NIDDK Initiatives for Diabetes Research in Minorities. The NIDDK is taking a number of steps to intensify research on Type II diabetes, with particular emphasis on minority populations. In 1993 close to $1 million will be expended to support over 30 new planning grants to increase research on diabetes in minority populations. NIDDK has launched a major new obesity research initiative. NIDDK is currently planning with members of the National Diabetes Advisory Board an initiative for a major, multicenter clinical trial on Type II diabetes with emphasis on minority populations.

Other Diabetes Prevention Initiatives. NIDDK support of diabetes research and training centers has historically included [illegible] clinical research projects, and support of clinical trials. Training programs among minorities are emphasized. Components of this effort include (1) clinical trials of non-drug treatment and prevention of NIDDM: prospective randomized studies of the efficacy of weight loss and fitness [illegible] in [illegible] weight control interventions for the prevention and treatment of diabetes in minority populations; (3) collaborative research with the Indian Health Service on diabetes in Native Americans and Alaska Natives; (4) drug development for amelioration or prevention of NIDDM complications, with subsequent clinical trials; (5) clinical studies of variables associated with increased diabetes prevalence in minority or other racial/ethnic groups; (6) studies of diabetes in Native Hawaiians; and (7) research training of physicians from under-represented minority groups.

Epidemiology, Data Systems, and Diabetes Data Group. These efforts encourage epidemiologic research, develop bases for prevention programs through risk factor modification, and assess the effectiveness of preventive regimens through clinical studies. Minority populations are a key focus of attention.

National Task Force on Prevention and Treatment of Obesity. This Task Force was established by the NIDDK in 1991 to provide authoritative information about what is known and not known about obesity; it serves a professional educational function as well as a public education function. The Task Force reports administratively to the National Digestive Diseases Advisory Board.

On November 3, 1992, announcement was made of the award of three P30 (Core Center) Obesity/Nutrition Research Center grants, with a total budget of $2.2 million. At the University of Vermont, environmental interactions with metabolic regulation will be stressed. Several centers in Boston will collaborate to study obesity and energy metabolism and to develop education and training programs. At the University of Pittsburgh, attention will focus on the prevention of obesity, and especially will focus on the acquisition of eating and exercise habits, and on the treatment of obesity, especially by behavioral modification methods.

The Obesity Information Resource Center coordinates existing efforts and makes use of materials related to obesity education and interventions funded by NIH, PHS, and other government, State, and local and private sector programs rather than duplicating such materials. Fact Sheets on "Binge Eating Disorders" and on "Important Elements of a Safe and Successful Weight Loss Program" were produced. In response to Congressional and other interest in assessment of weight loss programs and systems, a Technology Assessment Conference on Health Effects of Voluntary Weight Loss Efforts was held in March 1992 at NIH. Other activities include a NIH Workshop on the Pharmacologic Treatment of Obesity, NIDDK Workshop on Physical Activity and Obesity, Position Paper on Very Low Calorie Diets, and Paper on Dieting and Gallstones. Position papers on Health Benefits and Risks of Weight Loss and on Prevention of Obesity are in early stages of formulation. A joint Request for Applications on Childhood and Adolescent Obesity from NIDDK and the National Institute of Child Health and Human Development (NICHD) was issued on February 16, 1990. In addition, a conference on Prevention and Treatment of Childhood Obesity has been funded and scheduled. A scientific meeting on research needs on Obesity Treatment was held in early June 1993 in New York.

NIDDK FY 1992 Clinical Trials on Obesity. Controlled clinical trials are underway involving Obesity Treatment: Self-Management versus Dependence Models; Long-Term Outcome of Obesity Treatment in Minority Women; Weight Loss Maintenance in Severe Obesity; Low Fat Ad Libitum Diet and Weight Loss; and Gallstone Prevention During Weight Reduction.

Gastritis and Peptic Ulcers: The Role of *Helicobacter Pylori*. The spiral organism *H. pylori* is found in the stomach of many adults but is strongly associated with chronic active gastritis and peptic ulcer. Investigators supported by NIDDK have now shown that they can prevent virtually any recurrence of peptic ulcer disease by eradicating the *H. pylori* infection utilizing the combination of the antibiotic tetracycline, metronidazole (Flagyl), and bismuth subsalicylate (Pepto-Bismol).

Benign Prostatic Hyperplasia (BPH): The Role of Growth Factors. NIDDK-supported researchers have shown there are high concentrations of basic fibroblast growth factor in the adult prostate gland in hyperplastic regions, whereas the levels in normal tissue are low. In addition, specific growth factors from the testes are secreted in the semen. Testis-derived growth factor may have a direct role in the initiation or stimulation of BPH, and further research on this effect should suggest ways to prevent or control this condition.

Professional and Public Education. In September 1992, NIDDK sponsored a Consensus Conference on Gallstones and Laparoscopic Cholecystectomy. Another Consensus Conference was held in December 1992 on Impotence. Planned for the 1993–1994 period are conferences on Dialysis Morbidity and Mortality and on Peptic Ulcer and Helicobacter pylori. In addition to the clearinghouse on obesity, NIDDK operates clearinghouses on diseases related to obesity, such as diabetes, digestive diseases, and kidney disease of diabetes. Several publications have been issued which explain the prevalence of NIDDM.

NATIONAL INSTITUTE OF DENTAL RESEARCH (NIDR)

The broad mission of NIDR is to improve the oral health of the American people. NIDR supports and conducts research and research training on oral diseases and disorders and on normal patterns of oral tissue growth, repair, and maintenance. The NIDR promotes prevention-related research and ongoing studies are aimed at developing and testing new prevention strategies as well as identifying factors influencing the adoption and implementation of preventive strategies.

NIDR Prevention Highlights

NIDR Research and Action Program. Through the NIDR Research and Action Program To Improve the Oral Health of Older Americans and Other Adults at High Risk, nine research contracts are underway addressing oral health issues of adults. Three studies are investigating risk factors for tooth loss among middle-aged and older adults; other studies include a 2-year intervention study comparing strategies for preventing gingivitis and dental caries in older adults conducted at two public health department dental clinics serving lower income, inner city populations; a longitudinal study examining risk factors for oral diseases among older adult diabetic patients; a longitudinal investigation of tooth loss and periodontitis among Native Americans with diabetes in the Gila River Indian community; a study of the effectiveness of group behavioral intervention programs for older periodontal disease patients in health maintenance organizations; a cross-sectional and longitudinal analysis of factors associated with alveolar bone loss in aging men; and a study investigating the effectiveness of topically applied fluoride to prevent root and coronal caries in adults age 45 and older.

NIDR is active in the PHS Oral Health Coordinating Committee chartered by the Assistant Secretary for Health and chaired by the Chief Dental Officer. The mission of the committee is to facilitate action in the prevention of oral diseases among adults, to help maintain and enhance programs addressing oral health among children, and to coordinate activities in relation to HEALTHY PEOPLE 2000.

NIDR is active in Oral Health 2000, an initiative organized by a private foundation, The American Fund for Dental Health, which is recognized in a memorandum of agreement with PHS. This public and private collaborative enterprise unites government, foundations, consumer interest groups, industry, and health professionals in the largest public education/service program in oral health ever undertaken. The goal of Oral Health 2000 is to improve oral health by raising public awareness of the problems of oral diseases and promoting prevention. A major focus is educating the public to accept and understand that total oral health is indispensable to general health. The initiative also highlights the needs of older adults and high-risk populations.

Minority Oral Health. NIDR awarded six grants, with supplemental funding from the National Center for Research Resources, to support the development of Regional Research Centers in Minority Oral Health. The aim of these 3-year developmental grants is to enable minority dental schools or dental schools serving large minority populations to form the alliances and organizational structure necessary to compete for 5-year research center grants to be awarded in 1995.

NIDR is conducting a phased feasibility study of a community-based health promotion strategy in a minority community. The proposed research will focus on one geographically defined community with an internally diverse minority population to assess the feasibility of a community defining and managing its oral health. The proposed research will address both outcomes and process. Research questions will include the following: Can a community define its oral health problems? Can existing and new resources (e.g., facilities, health care providers, payment systems) be identified and mobilized to address and correct identified problems? Can the community implement an oral health promotion strategy? Can awareness of, knowledge of, and attitudes toward oral health be improved? Can oral health behaviors (e.g., self care, risk behaviors, dental visits) be changed? Can oral health status be improved as a result of a community-based oral health promotion approach? Can the changes in oral health and behaviors be sustained past a period of active intervention? What is the efficacy of using community resources to address oral health problems within the context of other life-threatening medical or social conditions in a minority community?

NIDR is collaborating in research to improve the oral health of Native Americans. The Pima Indian populations in Sacaton, Arizona, have one of the highest rates of NIDDM in the United States. NIDDM renders these individuals susceptible to extensive and severe periodontal disease, which leads to rapid tooth loss at an early age. Periodontal disease treatment is complicated by slow healing and impaired immune responses in NIDDM patients. To overcome these obstacles and to determine the most effective treatment for Native Americans with NIDDM, the Indian Health Service (IHS) and NIDR have developed a model treatment program that can be adopted in other IHS dental clinics. Patients are receiving thorough treatment for their periodontitis, and some will be further treated with a antimicrobial to test its effectiveness in controlling recurrence of the disease.

Data from the 1986–1987 *NIDR Survey of the Oral Health of U.S. Children* were used to identify cases of early-onset periodontitis for follow-back study. Half of the study population is black; many others are Hispanic. The collection of biological specimens and their microbial assays provides for analysis of biologic and non-biologic pathogenic risk markers and host-resistance factors for individuals both with and without juvenile periodontitis.

NIDR is evaluating the determinants of permanent tooth loss in a study population that consists mainly of blacks and

[illegible] to explain factors influencing choice between extraction and alternatives is being developed.

NIDR is sponsoring a study to determine the association between known or suspected risk factors and the occurrence of oral cancer in the Commonwealth of Puerto Rico, a geographic site that has consistently shown an unusually high incidence of oral cancer. Findings of the study could result in the development and application of interventions to reduce the [illegible] of oral cancer in this and other populations.

Biomarkers for Prevention and Early Intervention. NIDR is assessing the potential use of saliva or other oral tissue samples as diagnostic indicators of osteoporosis and oral or systemic diseases. NIDR is also investigating saliva as a diagnostic marker in individuals at risk for disease, e.g., AIDS, as well as the presence of drugs and hormones. In still another application, NIDR is [illegible] NCI researchers on a study of the use of saliva to assess fat intake among women enrolled in the Women's Health Trial Minority Feasibility Study. Assessment of dietary fat intake by means of salivary analyses affords an attractive alternative to more conventional procedures. By complementing an existing dietary intervention trial with studies of saliva, the NIDR is making a significant contribution to the area of molecular epidemiology and disease indicators.

Fluoride Efficiency and Efficacy. In light of the current decline in caries prevalence, experts are re-examining the efficacy, dosage level, and cost effectiveness of fluoride. The issue of combined sources of fluoride (e.g., food, drinking water, dentifrices, and other dental products) in relation to appropriate dosages for prevention are being addressed in research. The NIDR has undertaken several projects to further elucidate and define current interrelations between dental caries, dental fluorosis, and various concentrations of fluoride in drinking water and other sources of fluoride.

One study of dental fluorosis was begun under contract in July 1992 to assess the prevalence and severity of dental fluorosis in the early erupting permanent teeth of school-age children residing in the Portland, Maine, area. These children have used dietary fluoride supplements since birth in accordance with the dosage schedule currently recommended by the American Dental Association. This study will provide essential information needed to clarify whether the current standards for fluoride supplementation are still appropriate in terms of caries prevalence and fluorosis.

Sealants. The NIDR remains concerned about the low utilization of dental sealants for preventing tooth decay among children, particularly those at high risk. Much efficacy and some effectiveness research has been done on sealants. It is widely accepted that sealants prevent decay and questions of long-term effectiveness are being answered. However, the questions of policy and professional acceptability remain important barriers. In the current economic climate, the question of returns on investment are critical. For this reason, NIDR is undertaking demonstration research that will assess the cost and benefits of sealant programs, particularly among children at high risk. The central research question is whether the value of providing dental sealants to selected populations merits the investment of limited resources. Value will be assessed in terms of levels of health and satisfaction, reduced potential for future treatment needs, reduced risks of disease sequelae, enhanced functional capacity, cost savings, and reduced time missed from school, work, or social activities as a result of dental treatment averted.

Genetically Engineered Vaccines. Major progress is occurring in the development of vaccines for dental caries, certain periodontal diseases, Herpes simplex virus infections and other oral infections using genetic engineering techniques. These new-generation vaccines use highly purified molecules isolated from bacteria or viruses as the immunizing agents, supplying them in the form of easy-to-swallow vaccines. Monoclonal antibodies to decay-causing bacteria are also being developed. These antibodies can be given to individuals at high risk for tooth decay to boost their own immunity to disease. This passive immunity approach, as well as several candidate vaccines, are ready for testing in clinical trials.

In other research, NIDR-supported scientists have shown that the major decay-causing bacteria are not normally found in the mouths of infants but are generally transmitted from [illegible] to infant in the course of development. Indeed, scientists have identified a definite time period, from 19-28 months of age, when this transmission is most likely to occur.

Dental Plaque. The molecular scaffolding of dental plaque consists of a water insoluble polymer of glucose, known as mutan, which is synthesized by bacteria that cause tooth decay. *S. mutans* and *S. sanguis* inhabit the mouths of humans. *S. mutans* produces mutan and is known to cause caries. *S. sanguis*, on the other hand, does not produce mutan and its presence is associated with good oral health. Plaque can be removed from human teeth by an enzyme known as mutanase, which degrades the mutan polymer to glucose. Researchers are [illegible] the gene encoding for the fungal mutanase and plan to put it into *S. sanguis*. When the genetically engineered *S. sanguis* is placed in the mouth, they expect that the enzyme will be secreted and inhibit the accumulation of dental plaque and consequently prevent dental caries.

Vitamin Supplementation and Oral Cancer Prevention. Investigators are conducting animal studies and a non-randomized clinical trial on the effects of beta carotene on carcinoma. In the animal study, squamous cell carcinoma was induced chemically and beta carotene reduced the number of lesions significantly. In a patient study, partial or complete resolution of 71 percent of lesions occurred. Initial findings indicate that dietary supplementation with vitamins C and E is associated with a decreased likelihood of developing cancer. Ongoing research is testing vitamins individually and in combination at varying dosages.

Risk Factors for Periodontal Diseases. NIDR-supported periodontal research centers are conducting a number of clinical studies assessing environmental, microbiological, and host risk factors for disease so that appropriate preventive interventions can be developed. One study of 803 subjects indicated that smokers were 7 times more likely to have periodontal pockets of 4 mm or greater than non-smokers. This finding was unrelated to gender, the time since the last prophylaxis, the periodontal or gingival indices, or the bacterial species in the sub-gingival plaque. In a related project, the investigators

found that 92 percent of a group of refractory periodontal disease patients were smokers and had defects in polymorphonuclear leukocyte phagocytic function. Thus smoking, which in the past has been strongly associated with abnormal changes in the mucosa, appears to be a significant risk factor for periodontal diseases and will continue to be investigated.

Science Transfer. A contract to develop a National Oral Health Information Clearinghouse to provide information to individuals and organizations was let in 1993. In conjunction with the establishment of the clearinghouse, a national search to identify available patient and professional literature and audiovisuals in the oral health field was conducted. The information from the survey constitutes the initial database of resource materials for the clearinghouse. The developing oral health database was approved for inclusion in the Combined Health Information Database (CHID), a computer network of 17 federally operated subfiles that provide health information and education resources to patients, professionals, educators and the public.

NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES (NIEHS)

The National Institute of Environmental Health Sciences conducts and supports research, training, information dissemination, and other programs with respect to factors in the environment that affect human health, directly or indirectly. To this end, NIEHS investigates the effects of chemical, physical, and biological environmental agents on human health. Program output is intended to aid those agencies and organizations, public and private, responsible for developing and instituting regulations, policies, and procedures intended to prevent and reduce the incidence of environmentally induced diseases.

NIEHS Prevention Highlights

Biomarker Research. Recent advances in molecular biological techniques have resulted in significant new developments in the investigation of biological markers of environmental exposure and effect. NIEHS-supported scientists are studying techniques for measuring cumulative exposure to metals and other agents; developing biomarkers for toxicant-induced DNA damage; and determining components of receptor-mediated toxicity. All of these techniques have the potential to identify hazardous environmental or occupational exposures before clinical effects appear, and can be used to establish exposure limits to minimize health risks and prevent disease.

Lead Exposure Research. Lead exposure causes serious and permanent adverse human health effects such as central nervous system damage and renal failure. Numerous reports from NIEHS-supported scientists have demonstrated that lead exposure in children, even at low levels, adversely affects neurobehavioral function. One long-term NIEHS study of children found that elevated lead levels in infants are associated with later-occurring reading disabilities, delinquency, and reduced high school graduation rates. NIEHS scientists are also directing basic research aimed at further understanding the mechanisms of lead toxicity and lead mobilization during pregnancy.

NIEHS recently initiated a clinical trial of succimer, a promising chelating agent for reduction of elevated blood lead. In combination with lead-abatement measures, this chelation treatment will be evaluated for its ability to reduce blood lead levels and, eventually, to prevent the neurobehavioral effects of lead poisoning. These programs, as well as other lead abatement and lead poisoning control strategies developed by the Environmental Protection Agency and the Department of Housing and Urban Development, are aimed at preventing childhood lead poisoning, particularly in those most at risk, the inner-city poor.

National Toxicology Program's Toxicology and Carcinogenesis Studies. NIEHS houses the largest single component of the National Toxicology Program and initiates a number of 2-year chronic and prechronic studies each year. Each study is peer-reviewed and the results made public. Chemicals are selected for study on the basis of potential human exposure, level of production, and chemical structure.

In 1992, 13 chronic studies were peer reviewed, and 4 showed clear evidence of carcinogenicity in 1 or 2 species of rodents of both sexes. The 4 chemicals determined to be carcinogenic were C.I. Direct Blue, a dye; oxazepam, a tranquilizer; a polybrominated biphenyl mixture (Firemaster FF-1), used as a flame retardant; and 2,3-dibromo-1-propanol, a chemical intermediate for flame retardants, insecticides, and pharmaceuticals. The results of these reports will be used by other Federal agencies to regulate the use of these chemicals and to require necessary safety standards and devices to reduce or prevent potential exposure and disease in workers.

Superfund Basic Research Program. NIEHS funds several projects related to prevention research as part of the basic research program under Superfund. These projects address public health in the area of environmental remediation, with the goal of preventing exposure and subsequent disease. One such initiative concerns the health effects of combustion by-products, in which combustion engineers are collaborating with biomedical researchers to identify the major toxicants produced by combustion. The project includes research to understand the processes responsible for the formation and destruction of potentially hazardous combustion by-products and to develop chemical and physical technologies to reduce their amount and toxicity.

A second Superfund-sponsored initiative supports research on biodegradation of hazardous agents. These research projects focus on understanding particular metabolic pathways that are important in the biotransformation process for environmental compounds, mixtures, and metals. An understanding of these processes will allow researchers to manipulate them at the molecular level; the goal is not only to increase the rate at which biodegradation occurs naturally, but also to broaden the process to include activity against a wider variety of environmental toxicants.

Hazardous Waste Worker Training Program. The Superfund Amendments and Reauthorization Act of 1986 authorized NIEHS to establish an assistance program for training and education of workers engaged in hazardous waste removal, containment, and emergency response. The purpose of this training is to educate hazardous waste workers and supervisors on proper safety and cleanup procedures in the event of

a spill of hazardous material. There are currently 18 grant recipients in the NIEHS program, representing approximately 70 institutions. During the first years (1987–1990) of the program, more than 250,000 workers received training in over 8,000 classroom and hands-on courses, accounting for almost 4 million hours of actual training. Completion of this training permits workers to use proper methods to contain and clean up accidents involving hazardous materials in a manner that will prevent exposure and injury.

Environmental Equity. Environmental equity or environmental justice is a newly emerging social issue that links race, socioeconomic status, and occupation to exposure to hazardous environmental agents. A number of studies have established that minority populations are more likely to suffer elevated levels of such environmentally related or potentially environmentally related disease as lead poisoning, certain cancers, renal disease, neurological impairments, and asthma. NIEHS is in the forefront of the effort to develop a research strategy to substantiate the association between environmental exposure and their presumed, but as yet unproven health outcomes. In this effort, NIEHS has joined with other Federal agencies and actively solicited the input of academic and grassroots leaders of communities of color to identify data gaps and to develop the research agendas needed to address the health effects of such environmental exposures. These may include basic and epidemiologic research aimed at identifying links between exposures to environmental agents such as grain dusts, pesticides, and industrial and petrochemical plant emissions, with subsequent disease or dysfunction. Additionally, NIEHS programs are targeted to improve the diversity in trained environmental health professionals by encouraging minorities to enter environmental health professions.

NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES (NIGMS)

The mission of the National Institute of General Medical Sciences (NIGMS) is to support research and research training in the basic biological sciences. Projects supported by the NIGMS are largely investigator-initiated, and they provide the foundation for subsequent disease-targeted studies supported by the other components of the NIH.

NIGMS Prevention Highlights

Individual Responsiveness to Drugs and Prevention of Toxicity. NIGMS supports basic pharmacological research to identify factors and clarify the mechanisms involved in the safe use of drugs. Research has been conducted to elucidate the enzymatic mechanisms of anesthetic bioactivation and the clinical pharmacology of anesthetic toxification. This knowledge may be used to identify patient populations and individuals potentially at risk for anesthetic toxicity. Clinical strategies may then be devised for avoiding specific anesthetic agents or administering protective adjuvants.

Pathogenesis and Prevention of Multiple Organ Failure. Multiple organ failure (MOF) is a major problem following traumatic injury. It is the leading cause of mortality and morbidity in trauma and burn patients. Its etiology has remained elusive, but inflammation seems to play an important role in its pathogenesis. The NIGMS supports several research projects to elucidate the antecedents of MOF. Through research on such factors as intestinal injury and the pathogenesis of post-traumatic sepsis, a rational basis may be provided for the clinical prevention and treatment of MOF.

Prevention of Wound Infection. One of the most powerful means that clinicians possess to enhance early wound healing and resistance to infection lies in the control of oxygen delivery via blood perfusing the injured tissue. NIGMS-supported investigators are studying specific impediments to oxygenation and testing strategies to overcome these impediments. These studies are expected to provide the basis for simple and inexpensive changes in strategies of surgical care that will lead to major reductions in infections and other wound complications.

NATIONAL INSTITUTE OF MENTAL HEALTH (NIMH)

The mandate of the National Institute of Mental Health (NIMH) is to improve understanding of the cause, diagnosis, treatment, control, and prevention of mental illness. This is accomplished through the conduct and support of behavioral and biomedical research, health services research, research training, and health information dissemination. NIMH prevention activities are conducted through both intramural and extramural units. In 1993, a third national prevention research conference was sponsored and a contract to the Institute of Medicine to study prevention research was completed.

NIMH Prevention Highlights

Acquired Immunodeficiency Syndrome (AIDS). AIDS is a disease with substantial psychological and behavioral impact. Curbing the transmission and spread of HIV requires behavior change. Moreover, behavior is a co-factor in the modulation of immune function and in the progression from infection to disease. Research on the primary prevention of AIDS through changing high-risk behavior is a priority. Thus, the NIMH AIDS prevention effort focuses on the determinants of risk behaviors, the development and assessment of programs to achieve and maintain behavior change, and the efficacy of various organizations in implementing prevention programs. Both AIDS Research Centers and investigator-initiated studies are important mechanisms for accomplishing multidisciplinary research on behavioral, neuropsychological, neuropsychiatric, and mental health aspects of AIDS.

Prevention of Conduct Disorder. Conduct disorder is defined as a pattern of persistent, defiant, and oppositional behaviors that ignore the rights of others. More commonly, it is known as antisocial, delinquent aggressive, acting out, or externalizing behaviors. This disorder is the most frequent reason for referral of children to outpatient mental health services. Because conduct disorder is common and predictive of adult antisocial behavior and substance abuse, new research on preventive approaches for high-risk children has become a priority. Current studies focus on changing cognitive

processes underlying social behaviors, fostering academic and social skills, and improving behavior management.

A new grant program of prevention research demonstrations aimed at conduct disorders was initiated at the end of fiscal year 1990. Three awards were made. The first award was for a combined school-based intervention and summer camp for first and second grade children and their parents. The intervention will be tested at four sites: Durham, North Carolina (Duke University), Nashville, Tennessee (Vanderbilt University), rural Pennsylvania (Pennsylvania State University), and Seattle, Washington (University of Washington). The second award was for a school-based intervention program for at-risk minority children in high-crime areas of Chicago (University of Illinois, Chicago). The third grant project combines a daily skills training and classroom achievement system with peer communication groups for high-risk fourth grades (University of South Carolina).

Preventive Intervention Research Center (PIRC) Program. Multidisciplinary PIRCs conduct research of early preventive interventions, refine the identification of risk factors and experimental epidemiology, and advance prevention research methodology. PIRCs also support research in clinical, academic, and community settings. Each PIRC must provide supervised work experiences for a minimum of two trainees each year from mental health and related fields. NIMH currently funds five PIRCs, which focus on the prevention of (1) early risk behaviors in children (Johns Hopkins University), (2) mental disorder and behavior dysfunction in chronically and seriously ill children (Albert Einstein College of Medicine), (3) mental disorder in children experiencing stressful life events (Arizona State University), (4) mental disorder related to unemployment stress (University of Michigan), and (5) conduct disorder and other disruptive behaviors in school-age children (Oregon Social Learning Center).

Youth Suicide. Suicide is the third leading cause of death among people between the ages of 15 and 24. The Secretary's Task Force on Youth Suicide, charged with investigating ways to prevent youth suicide, developed comprehensive recommendations that address the need for research, education, and services. In accordance with these recommendations, NIMH has expanded its role in suicide-related research, coordinated by a multidivision suicide consortium. NIMH has also increased intramural and extramural research efforts and issued a program announcement requesting grant applications in suicide research. Finally, NIMH initiated a youth suicide research demonstration grant program at the end of fiscal year 1990. Three awards were issued to programs targeting high-risk individuals with multifaceted, intensive training interventions related to coping skills. The first is a short-term outpatient treatment program for high-risk young military personnel that included psychoeducational, problem-solving, and mood management components (Texas A&M University). The second is a group problem-solving or support intervention for college students who have chronic suicidal thoughts and may have made previous suicide attempts (Virginia Polytechnic Institute and State University). The third is a year-long personal growth class that integrates teacher and peer support aimed at developing the life skills and social networks of high-risk high school students with a history of substance abuse (University of Washington). Other NIMH suicide consortium activities include technical assistance to potential grant applicants, research workshops, an interactive videodisk for medical students, and public information materials.

Perpetrators of Violence and Victims of Traumatic Stress. The past two decades have brought increasing awareness of interpersonal violence and its mental health consequences, particularly in the domestic violence and sexual assault. NIMH has responded to this serious public health problem by issuing two program announcements, one inviting research on perpetrators of violence (PA-91), the other inviting research on victims of traumatic stress (PA-92-02). Included are specific calls to test and refine models of prevention, to treat and manage violent behaviors, as well as to study social support systems and coping mechanisms and their effect on psychological response to traumatic events and stress among victims and among human service personnel. The need for studies of short-term crisis intervention and long-term mental health treatment for victims of all ages and/or their significant other and for studies of community programs to reduce or ameliorate emotional trauma and long-term consequences of traumatic events, is highlighted. In addition, an Institute-wide violence consortium of has been established to coordinate and advance research activities in these areas.

Special Issues in the Promotion of Minority Mental Health and Prevention of Minority Mental Disorders: Rural Populations, Ethnic Populations, and Women. In 1990 the National Advisory Mental Health Council and the National Mental Health Leadership Forum jointly sponsored a public hearing on mental disorders in rural areas. The NIMH program announcement on Research on Mental Disorders in Rural Populations (PA-91-52) called for the development of primary care and other services to provide basic mental health care in remote areas and the study of the effectiveness of preventive interventions aimed at modifying known risk factors and enhancing psychological functioning.

NIMH has issued two program announcements regarding mental health in ethnic populations. Minority Mental Health Research Centers (PA92-122) are being funded to provide research environments in which state-of-the-art research methodologies will be applied to the understanding and improvement of mental health and to the prevention and treatment of mental illness for American Indians, Alaska Natives, Native Hawaiians/Pacific Islanders, African Americans, Hispanics, or Asian Americans. An additional effort is addressing epidemiology, prevention, family, and individual coping styles and resiliency, family violence, and service use, treatment, and quality of care by means of multiple research and research demonstration mechanisms (American Indian, Alaska Native and Native Hawaiian Mental Health Research, PA93-53).[1]

In Social and Behavioral Aspects of Women's Health Over the Lifecourse (PA-92-105), NIMH, the National Institute on Aging and the National Institute of Child Health and Human Development jointly encouraged indepth examination of vari-

[1]This announcement is intended to broaden the range of research initially stimulated in 1990 by a joint NIMH, NIAAA, and NIDA announcement, Epidemiologic and Services Research on Mental Disorders that Co-occur with Drug and/or Alcohol Disorders Among American Indians, Alaska Natives, and Native Hawaiians.

ous aspects of women's health and aging: improved life expectancy, psychological adjustment and quality of life; women's health behaviors, especially in the context of family, work, and community; labor force participation over the life span and its relationship to women's well-being, health, and mortality; multiple roles, stress, stress buffers (such as social support), and physical, psychological, and social consequences; minorities, specific populations and cross-national research. The NIMH expressed particular interest in factors that contribute to mental health and adaptation, including studies of gender differences in contributing psychological processes and studies of interpersonal, family, societal, and cultural processes that affect mental health outcomes. Special Issues in Women's Mental Health Over the Life Cycle (PA-91-100) addresses mood, behavioral, cognitive and somatic changes associated with menstrual- and reproductive-related neuroendocrine fluctuations in women. Attention is directed to the etiology, treatment, and prevention of mental illness, including premenstrual syndrome/late luteal phase dysphoric disorder; reproductive changes associated with mood and behavioral changes and disorders; mental health effects of psychosocial issues in the timing/control of reproduction; pregnancy-related and postpartum mental disorders; psychological and physical conditions associated with the decrease and subsequent cessation of significant ovarian steroid production at menopause and during the post-menopausal period; and gender differences in the predisposition to mental disorders, such as the heightened risk of women for eating disorders, panic disorder, depression, and seasonal affective disorder and their lower risk for alcoholism and sociopathy.

NATIONAL INSTITUTE OF NEUROLOGICAL DISORDERS AND STROKE (NINDS)

The National Institute of Neurological Disorders and Stroke (NINDS) conducts and supports research on the causes, diagnosis, treatment and prevention of neurological, neuromuscular, and cerebrovascular disorders. NINDS provides funding for basic and clinical neurological research and for institutional and individual training fellowships to encourage future scientific leadership in the neurological sciences.

A public law enacted in 1989 designated the 1990s as the Decade of the Brain. An implementation plan was prepared by the National Advisory Council of the NINDS, and recently *Progress and Promise: Status Report on the Decade of the Brain* reviewed the progress that has been made in basic and clinical research on neurological disorders and the major areas of opportunity for further advancement.

NINDS Prevention Highlights

Prevention Through Genetic Research. The central nervous system is uniquely susceptible to developmental, traumatic, and degenerative disease. One of the most promising areas of research concerns the prevention of neurogenetic and neurodevelopmental disorders. At least 25 percent of the 4,000 known genetic disorders affect the nervous system directly; many more have ancillary effects.

Researchers at the NINDS laboratories have shown that enzyme replacement therapy is beneficial in preventing the life-threatening symptoms in patients with a lipid-storage disorder called Gaucher's disease, a therapy that may be feasible in other neurologic disorders. Gene therapy, a technique designed to replace or augment the patient's own defective genes, is being explored for preventing some neurological disorders.

Some genetic disorders manifest symptoms overtly, as in Huntington's disease, but others are influenced by genes in more subtle ways. Epilepsy, multiple sclerosis, and even stroke are now known to be influenced by genetic factors. Alzheimer's disease and Parkinson's disease are influenced by a complex interaction of genetic and environmental factors. NINDS continues to support basic research to elucidate these factors.

Prevention of Infant Mortality and Developmental Disorders. NINDS is supporting a major clinical trial to examine methods for preventing intracranial hemorrhage in neonates. Other research is focusing on the prevention of some common birth defects such as spina bifida, a malformation of the neural tube that occurs in the first month of fetal development. Recent studies have shown that adequate maternal intake of folic acid at conception diminishes the risk of neural tube defects. Fundamental studies of genetic and developmental factors offer promising approaches to the prevention and treatment of many other conditions leading to infant mortality.

Prevention of Epilepsy. Traumatic brain injury—both the immediate trauma and the secondary injury that follows it—is responsible for 5,000 new cases of epilepsy each year. A reduction in head injuries through such public health efforts as seatbelt and helmet use would obviously do much to reduce the incidence of epilepsy. NINDS is actively testing anti-epileptic drugs to evaluate their potential for preventing the development of new cases of epilepsy in victims of head injury. Additionally, it is pursuing the question of prevention of secondary injury following head trauma.

NINDS scientists have begun exploring the possibility of developing a vaccine for a parasitic disease, neurocysticercosis, a common cause of epilepsy worldwide. While not highly prevalent in this country, it is found in some immigrant populations. In the United States, prevention of meningitis and encephalitis would also prevent many cases of epilepsy.

While antiepileptic drugs are well accepted as treatment for epilepsy, little is known about their role in preventing or delaying its progress, or their long-term effects. These issues will be addressed in future studies.

Stroke Prevention. Recent findings from a study supported by NINDS concluded that stroke risk could be cut by 50 to 80 percent in individuals with atrial fibrillation by treating them with aspirin or an anticlotting agent called warfarin. Employing this treatment could prevent about 20,000 to 30,000 strokes a year. Another multicenter trial is now underway to test the safety and efficacy of synthetic heparinoid in halting the growth of existing clots and preventing new ones.

A partially blocked carotid artery in the neck is often considered an indicator of poor circulation to the brain. NINDS grantees have reported that carotid endarterectomy, a procedure to surgically remove these blockages, is highly effective in preventing stroke in persons who have severe blockage.

The study is continuing, now focusing on its efficacy for those who have a moderately narrowed artery.

In order to find out why African Americans have one of the highest stroke rates in the world, the NINDS has initiated two 5-year studies to identify risk factors for stroke in this population and specific prevention strategies.

NATIONAL INSTITUTE OF NURSING RESEARCH (NINR)

The National Institute for Nursing Research conducts and supports basic and clinical research and research training to build the scientific base for nursing practice. NINR Health Promotion and Disease Prevention Program places special emphasis on behavioral, physiological, and environmental factors that prevent disease and promote health across the life span. NINR places special emphasis on populations at greatest risk for illness and disability, such as minority and ethnic groups, women, older people, and disabled persons. Studies of preventable health problems in the emerging lifestyles of children and adolescents are also encouraged.

NINR Prevention Highlights

Low Birth Weight. Low birth weight (less than 5 pounds) is associated with large numbers of infant deaths each year in the United States. Low-birth-weight infants are 40 times more likely to die during their first month of life than those born at normal weight and 2 to 3 times more likely to suffer from chronic handicapping conditions, such as blindness, mental retardation, and deafness. The care provided in neonatal intensive care units is critical to their survival and healthy development. The extreme fragility of these infants, especially the very-low-birth-weight babies (3 pounds or less), requires special nursing practices for handling, feeding, respiratory care, and skin care. In response to these needs, NINR supports studies concerning the special care requirements of low-birth-weight infants.

One area under investigation concerns individual differences in sucking behavior among infants. Characterization of this behavior may permit early identification of impaired infants and assessment of their neurological development and ability to adjust to their environment. An NINR grantee has already demonstrated that tracings of sucking patterns illustrate the organizational differences between pre-term and full-term infants. The full-term infant generates more sucks per burst with greater pressures over a longer period of time. Information on infant sucking patterns will lead to the development of a clinical tool to assess neurobehavioral maturation in the neonatal period, identify impaired infants, and measure outcomes of interventions.

Another investigator is relating patterns of sleep-wake states and associated activity patterns, respiration, and vocalizations observed during the pre-term period to developmental status, such as social competence, cognitive ability, health status, language skills, motor abilities, and sleep patterns, at age 3.

Children and Adolescents. Many of the most important risk factors for chronic disease in later years have their roots in health-compromising behaviors that begin in childhood and adolescence. Attitudes and habits related to diet, physical activity, alcohol abuse, tobacco use, and sexual behavior often persist from adolescence into adulthood.

NINR supports three exploratory centers to investigate health-risk behaviors, strategies for their prevention, and promotion of healthy behaviors in adolescents. These centers, located at the University of Kentucky, the University of Texas Health Science Center, and the University of Michigan, have undertaken pilot studies on tobacco and alcohol use, the effect of zinc deficiency on teen pregnancy, diet and exercise modulation, oral health, and sexual activity. Study populations are drawn from diverse racial and socioeconomic backgrounds. The center in Kentucky is concerned with young people in rural settings.

The health of children aged 8 to 18 is being addressed in a new initiative to design community-based interventions that foster health-promoting cognitive and behavioral patterns in this age group. Specific objectives include the development of (1) family, school, and community strategies for adopting and maintaining health-promoting behaviors among young people in traditional health-care settings such as emergency facilities, school-based clinics, and medical offices; and (2) alternative health-promotion models and outreach strategies in urban and rural settings such as youth-serving community agencies, shelters for runaways and the homeless, malls, churches, and youth-employing worksites. Highly vulnerable groups are of special concern and include members of minority subgroups, immigrants, and economically disadvantaged, homeless, and disabled individuals.

Prenatal Care and Health in Pregnancy. An important factor in pregnancy outcomes is the mother's support system. A number of support interventions are being designed and tested by NINR grantees to determine their effects on maternal health and behaviors, on birth weight and other pregnancy outcomes, and on recovery from pregnancy and delivery.

Because many women at risk for pregnancy complications and pre-term labor are members of minority groups and often live in rural areas, two key aspects of effective interventions are their cultural sensitivity and their accessibility to rural women. Nursing practice models that provide prenatal and post-partum support are currently being developed and tested for women in low-income African American communities, for Hawaiian, Filipino, and Japanese women in rural Hawaii, and for Native American and Hispanic women in rural Oregon.

Preliminary findings are available from the study of low-income African American women. In this study, routine prenatal care was augmented with regular telephone contact by perinatal clinical nurse specialists who assess for and heighten awareness to early warning signs of premature labor, thereby permitting timely interventions to reduce the number of early deliveries. Of the women in the intervention group, 6.7 percent delivered low-birth-weight infants, while 11.9 percent of the women who received routine prenatal care delivered low-birth-weight infants. These results suggest that this type of intervention is a potentially low-cost method of reducing low-birth-weight outcomes.

Another approach, characterized by home visitations by nurses to expectant and new mothers, is being evaluated. Nurses assume educational, counseling, and nurturing roles in a nurse home-visitation program for poor, unwed pregnant women bearing their first babies. The purpose of the study is

to determine whether the home-visitation program improves prenatal health habits, infant caregiving skills, and mental health functioning; encourages the use of community services and educational and occupational achievements; and helps reduce unwanted additional pregnancies.

Interventions that address other dimensions of childbearing are also being developed with NINR support. A nursing role supplementation program is being developed for first-time adolescent mothers between the ages of 14 and 18. The goal of the program is to promote effective maternal behaviors by providing role modeling, role rehearsal, information-sharing, and support and counseling.

National efforts to control health care costs have resulted in the development of alternative methods of care delivery. One such alternative is transitional home follow-up care. This model of care is designed to discharge patients early from the hospital by substituting a portion of hospital care with a comprehensive program of home follow-up by nurse specialists. The clinical nurse specialists prepare patients for early discharge, conduct scheduled home visits, and are available by telephone 24 hours a day with backup support from the patient's physician.

The effects of transitional home follow-up care were also studied in a group of childbearing women with diabetes and their infants. Low birth weight was 3 times more prevalent in the control group than in the group of infants whose mothers received the intervention early in their pregnancies. Moreover, researchers found that the women who received the intervention were discharged earlier, had fewer re-hospitalizations, and had a 38-percent reduction in health care costs compared to the control group.

Transitional home follow-up care was also compared with routine hospital care in a group of women delivering by unplanned cesarean birth. Findings indicate that the women who received the intervention were discharged an average of 30 hours earlier and reported greater satisfaction with their care. The intervention resulted in an average reduction of 29 percent in health-care costs as compared to routine hospital care.

Women's Health at Midlife. More attention must be paid to health issues at midlife, especially for women. Menopausal symptoms, sleep disturbances, changes in gut function, and the stress of multiple roles resulting from careers and responsibilities for both children and aging parents—all require intensive research to improve health and well-being in this age group.

Hormonal changes that precipitate disease conditions are responsible for loss of functional ability in many midlife women. Studies are being carried out to determine the physiological basis for such conditions and to develop interventions that alleviate suffering and disability. Topics under investigation include symptoms related to menstruation, complications of hormonal imbalance, sleep disturbances in menopause, decisions regarding estrogen replacement therapy, and correlation between physical activity and bone mineral density.

One interesting study focuses on ovarian hormone modulation of gastrointestinal function. Perimenopausal and postmenopausal women frequently experience constipation and abdominal pain and distension. These symptoms are consistent with slowed gastrointestinal motility. While it is known that ovarian hormones modulate gut motility, the effects of fluctuating ovarian hormone levels on gastrointestinal function during perimenopause and post-menopause remain unclear.

Nurse investigators have been examining the influence of ovarian hormones on gastrointestinal structure and function in a rat model. Levels of estrogen and progesterone are manipulated in ovariectomized rats in order to examine the effects of hormone replacement and dietary fiber supplementation on gut motility. The investigators have found that gut motility in ovariectomized rats treated with progesterone was 37-percent slower than in rats treated with estrogen or estrogen plus progesterone. In addition, estrogen treatment was shown to increase gut muscle tension. The administration of dietary fiber to ovariectomized rats receiving no hormone replacement was associated with a 60-percent increase in gut transit. These findings indicate that estrogen replacement and dietary fiber supplementation may help to alleviate the abdominal discomfort often experienced by menopausal women.

NINR is also funding a specialized Center for Women's Health Research that focuses on midlife health issues including the health and health-seeking behaviors of a diverse cohort of midlife women; nonspecific physical symptoms and stress responsivity; and circadian temperature rhythms and sleep. In one substudy, more than 450 women aged 35 to 55, including ethnic minorities and those with low-income lifestyles, are being tracked over a 3-year period to examine the demands made upon them and their resources, the multiple roles they must fill, and the relationship of these factors to illness.

Screening and Early Detection. Early detection of disease can be a key deterrent to serious, long-term illness. Factors that influence an individual's decisions about early detection procedures require more research. For example, regular self-examination allows many breast cancers to be discovered at a more clinically favorable stage. Women who are at greatest risk for developing breast cancer and who are least likely to complete a monthly breast self-examination are those age 35 and over. In an NINR-supported study, attitudes toward breast cancer, self-examination practices, and mammography are being investigated among women in this age group. Findings from this study will be used to develop nursing interventions to increase breast examination in women 35 and over.

A community-based nursing intervention to increase colorectal cancer screening has been tested in a group of socioeconomically disadvantaged, poorly educated white and African American older adults. Traditionally, when these individuals are given stool kits to detect colorectal cancer, they often do not return them because they are unable to read or understand the directions. Nurse researchers have found, however, that when peers were used as role models to explain and demonstrate the use of the kits, the rate of returned kits increased significantly. An average of 88 percent of the intervention group returned their tests, while only 52 percent of the tests were returned by the control group. This study demonstrates an effective, community-based cancer-screening program developed specifically for socioeconomically disadvantaged people.

Another nurse investigator has assessed the effectiveness of a community-based nursing intervention in reducing the prevalence of cardiovascular risk factors in a group of 8- to 10-year-old children living in a rural community. The investigator found that these children had higher blood pressures, higher total cholesterol levels, and higher measurements of body fat than urban children of the same age. After the inves-

tigators introduced a nurse-designed educational program taught by classroom teachers, the cholesterol levels of the children who participated in the program showed an average drop of 7.9 mg/dl while those who did not participate showed an average rise of 3.5 mg/dl.

NATIONAL LIBRARY OF MEDICINE (NLM)

NLM Prevention Highlights

Outreach to Maternal and Child Health Care Providers in the Lower Mississippi Delta. The NLM outreach program is a cooperative effort with the 3,600 member institutions of the National Network of Libraries of Medicine. NLM has initiated more than 200 outreach projects, involving nearly 400 institutions, since the publication of the DeBakey report in 1989. They include extensive efforts to train physicians and other health professionals to use Grateful Med, through projects at the Regional Medical Libraries and awards to small-to-medium sized network libraries to improve both local resources and access to online information. There is a special emphasis on rural and inner-city areas and minority populations. There is also a special initiative in the Toxicology Information Program to strengthen the capacity of nine Historically Black Colleges and Universities to train medical and other health professionals in the use of toxicological, environmental, occupational, and hazardous waste data bases at NLM.

Planning for an expanded outreach effort in the Lower Mississippi Delta began in late 1992 and is being carried out with the assistance of the Southern Institute on Children and Families. In the coming months, meetings to establish linkages with key governmental, health, academic and local community organizations will be held in six Southern States. This outreach approach seeks to identify health-related activities focused on the health of pregnant women and children.

MEDLARS. The National Library of Medicine (NLM) collects materials exhaustively in all major areas of the health sciences. The Library's computer-based Medical Literature Analysis and Retrieval System (MEDLARS) was established to achieve rapid bibliographic access to this vast store of biomedical information. MEDLARS contains some 40 data bases, of which the MEDLINE data base is the best known. Many of these provide health promotion and disease prevention information; others provide comprehensive information on cancer and AIDS research. NLM provides worldwide access via MEDLARS.

DIRLINE. NLM's Directory of Information Resources Online (DIRLINE), an online interactive data base about organizations which will respond to public inquiries, provides referrals to organizations involved in disease prevention and health promotion. DIRLINE also provides access, via MEDLARS, to the Self-Help Clearinghouses (SHC) data base produced through collaboration with the Surgeon General's Initiative in Self-Help and Public Health and the National Health Information Center data base produced by the DHHS Office of Disease Prevention and Health Promotion.

Full-Text Databases. NLM has created an experimental full-text online retrieval system. For prototype development, NLM is using the *Guide to Clinical Preventive Services: An Assessment of the Effectiveness of 169 Interventions*, a report of the U.S. Preventive Services Task Force published in 1989, and a file comprised of some 89 NIH Consensus Development Conference Reports. This research and development effort will create a prototype of a full-text data base, which will include the Agency for Health Care Policy and Research clinical practice guidelines.

Teenage Suicide Prevention. NLM and the National Institute of Mental Health have developed an innovative computer-controlled videodisk curriculum, "The Suicidal Adolescent: Identification, Risk Assessment, and Intervention." Designed for medical students, the interactive videodisk program helps raise awareness levels concerning the hidden signs of an impending suicide and what to do about it. The program includes a series of simulations of depressed adolescents and are used to explore physicians' attitudes and to highlight interview skills, decision making in gathering information, assessment of suicide risks, and appropriate intervention.

Cervical Cancer: Success in Sight. This videodisk serves as an electronic journal allowing the user to randomly access a range of topics related to cervical cancer. Program topics include incidence and mortality data, risk factors, and the screening process. The program utilizes a visual data base of cytology slides to identify "adequate" and "inadequate" smears and histology and cytology slides to identify abnormalities. "Viewpoint" is a user query section in which questions related to three key screening topics are presented. The user then has the opportunity to select video responses from four experts in the field. The program was first developed as an interactive videodisk and soon will be available from the National Cancer Institute in a Compact Disc—Interactive (CD-I) format.

Clinical Alerts. NIH has instituted a clinical alert system whereby the medical community is notified of major results of clinical trials prior to formal publication. Once an NIH Institute director has determined that expedited release of findings from a clinical trial could affect morbidity and mortality, NIH uses the National Library of Medicine's online services and the National Network of Libraries of Medicine to announce findings. On January 18, 1991, NLM disseminated the first clinical alert over its MEDLARS Network. To date, nine alerts have been distributed.

Toxicology and Environmental Health. Hazards to the public health and the environment from chemicals are the result of advancing industrialization, changes in agricultural practices, and improper storage, handling, transportation, and disposal. Of particular importance are the effects of chemicals to which people may be exposed at low concentrations over prolonged periods, because in these cases the toxic effects may be subtle and difficult to discern. The chemical and toxicological data bases of NLM provide data and information about exposures to chemical, physical, or biological agents that are of particular importance in the prevention of occupational and environmental illnesses.

AIDS Bibliography. The *AIDS Bibliography* is a monthly NLM-produced bibliography that contains citations to journal articles, monographs, international conferences and audio-

visuals on all preclinical, clinical, epidemiologic, diagnostic, therapeutic, and prevention areas of HIV or AIDS added to NLM's MEDLINE, Health Planning and Administration, CANCERLIT, CATLINE, and AVLINE data bases.

Current Bibliographies in Medicine. NLM also produces *Current Bibliographies in Medicine* (CBM), a series that covers a wide variety of topics, including health promotion, disease prevention, and women's health issues. Each bibliography in the series covers a distinct subject area of biomedicine and citations are usually derived from a variety of online data bases. Some recent CBMs are entitled *Seafood Safety, Silicone Implants, Adolescent Alcoholism, Electromagnetic Fields, Gallstones and Laparoscopic Cholecystectomy, Methods for Voluntary Weight Loss and Control, Seasonal Affective Disorder, Triglyceride, High Density Lipoprotein and Coronary Heat Disease, and Disease Prevention Research.*

Prevention Posters. Posters persuade the public to stop smoking, eat well, and practice safe sex, among other things. The use of this form of public communication plays an important role in the arena of health promotion and disease prevention. The NLM has archived a collection of more than 4,500 posters. Selections of posters are exhibited at the NLM periodically and are shown in a succession of science museums and libraries around the Nation.

WARREN GRANT MAGNUSON CLINICAL CENTER (CC)

The Warren Grant Magnuson Clinical Center is the research hospital unit of NIH and thus is the Federal Government's primary clinical facility for biomedical investigation. The CC provides and supports approximately 500 patient beds, 50 clinics, and 2,000 laboratories to enhance the NIH clinical research mission.

CC Prevention Highlights

Occupational Bloodborne Infections. Occupational exposure to human blood and other body fluids is the major risk for health care workers to acquire bloodborne infections such as hepatitis and HIV. Public Health Service recommendations, frequently referred to as Universal Precautions, are designed to minimize health care worker exposures to potentially infectious materials (primarily human blood and other body substances). Studies of health care workers at CC are being pursued to determine the efficacy of Universal Precautions in preventing occupational exposures to potentially infectious materials. The study findings support the important role of Universal Precautions in decreasing occupational exposures.

Measles Immunity of Health care Workers. With the recent resurgence of measles and measles outbreaks in the health care setting, national vaccination guidelines encourage health care institutions to develop programs to ensure that employees are immune to measles. A CC study is investigating the seroepidemiology of measles and immune response to measles vaccine in a population of newly employed health care workers. Findings suggest that employees born outside the United States are more likely to be immune than those born in the United States. The recommended birthdate cutoff of 1957 (assuming everyone born before 1957 is immune to measles) misses some susceptible persons and could be improved by lowering the cutoff birthdate to 1951. Furthermore, follow-up of adult vaccine recipients identified some with suboptimal antibody responses, which may include a subpopulation of hypo-responders. These findings may provide new direction for health care institutions to design effective and economical programs to prevent measles transmission in the health care setting.

Safety of Zidovudine. Zidovudine (AZT) has been shown to delay the progression of disease in persons infected with HIV. Health care workers who experience occupational exposures to HIV, such as cuts or punctures with contaminated sharp objects, have a small but measurable risk of acquiring HIV infection. Little is known about the effectiveness of AZT in preventing HIV infections in health care workers following occupational exposures to HIV or its toxicity in this setting. The CC and the University of California San Francisco/San Francisco General Hospital are conducting a collaborative multicenter open-label study to address these issues. The aims of the study are to evaluate the toxicity of AZT when administered as a short course to health care workers following occupational exposure to HIV and to describe the epidemiology of exposures to HIV for which AZT chemoprophylaxis is elected. Preliminary findings indicate that over a third of the participants discontinued AZT prophylaxis because of subjective toxicities or personal reasons, although no participants had documented objective toxicities, based on physical or laboratory findings. No HIV infections have been detected, but the study population is small, and none would be anticipated. These data indicate that zidovudine can be safety administered as post-exposure prophylaxis to health care workers following occupational exposures to HIV.

Substance Abuse and Mental Health Services Administration (SAMHSA)

The Substance Abuse and Mental Health Services Administration has lead responsibility for the Federal Government's support and conduct of programs and initiatives to ensure that knowledge, based on science and state-of-the-art-practice, is effectively used for the prevention and treatment of addictive and mental disorders. SAMHSA also strives to improve access and reduce barriers to high quality, effective programs and services for individuals who either suffer from or are at risk for these disorders, as well as for their families and communities. Under this mandate, SAMHSA designs and promotes innova-

tive public health service demonstration programs to treat these disorders and to prevent related consequences such as HIV/AIDS and violence. SAMHSA's mission is accomplished through the Center for Mental Health Services, the Center for Substance Abuse Prevention, and the Center for Substance Abuse Treatment. (Effective October 1, 1992, SAMHSA was created as a result of the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) Reorganization Act.)

CENTER FOR MENTAL HEALTH SERVICES (CMHS)

With its Congressionally mandated prevention mission, the Center for Mental Health Service develops and coordinates Federal prevention policies and programs to ensure increased focus on the prevention of mental health disorders and the promotion of mental health.

During the last 10 years, major advances in the development of preventive interventions have been made, particularly for mental disorders among children and adolescents, suicide attempts among adolescents and adults, and the negative impacts of stress among adults. Translation and application of these advances into well-evaluated and practical mental health service delivery programs capable of intervening and mediating are needed.

CMHS Prevention Highlights

Workgroup on Operating Definitions. CMHS is developing working definitions of prevention through a working group representing an array of mental health services. The workgroup met in early 1993 to make recommendations on program priorities and strategies in the mental health prevention area.

Annual Mental Health Prevention Forum. An annual assembly convened by CMHS brings individuals interested in mental health services together for a review and discussion of developments during the previous year. Activities in the public and private sectors at the national, State, and local levels will be highlighted at the forum and the proceedings will be published.

Coordination and Liaison Program. CMHS engages in extensive liaison and networking activities to gather information about prevention activities. Priority issues to be addressed by CMHS during 1993 include seriously mentally ill and respite care; seriously emotionally disturbed children; and workplace stress.

CENTER FOR SUBSTANCE ABUSE PREVENTION (CSAP)

The Center for Substance Abuse Prevention was created by the Anti-Drug Abuse Act of 1986 to lead the Federal Government's efforts toward prevention of alcohol, tobacco, and other drug problems. CSAP also provides Federal leadership to stimulate and support partnerships within all sectors of society to create a holistic prevention agenda to foster healthy individuals, families, organizations, and communities, especially among those most at risk.

CSAP Prevention Highlights

SAMHSA Policy on Alcohol, Tobacco, and Other Drug Abuse. One of CSAP's primary tasks is to promote the policy message that there should be no illegal use of alcohol, tobacco, or other drugs. Because of the complexity of drug problems, innovative prevention approaches must be carefully planned, implemented, and evaluated.

Emphasis on High-Risk Youth and Families. The prevention of alcohol, tobacco, and other drug use among America's youth is supported by a demonstration grant program for projects that promulgate models for preventing use by high-risk youth. CSAP has funded High-Risk Youth grants since FY 1987. By the end of FY 1992, CSAP had awarded 314 grants. In FY 1993, 152 of these grants continue to be operational, and 5 new grants were funded as of December 1992, at a total cost of approximately $1.5 million.

Emphasis on Pregnant and Post-Partum Women and their Infants (PPWI). CSAP funds projects that focus on prevention, education, and treatment in community, inpatient, outpatient, and residential settings for pregnant and post-partum women and their infants. These projects demonstrate promising models to prevent or minimize fetal exposure to alcohol, tobacco, and other drugs, improve birth outcomes, reduce functional impairment, and strengthen or expand service delivery of therapeutic programs, comprehensive supportive services, and medical care. With about $47.6 million in 1993, 134 programs are planned for low-income women at high risk under the PPWI initiative.

Community Partnership Demonstration Grants. CSAP has developed and is implementing comprehensive, long-term community alcohol, tobacco, and other drug abuse prevention/intervention strategies, programs, and service support activities through community-wide coalitions and partnerships. In FY 1993, emphasis is on the implementation of drug prevention programs in the workplace. CSAP anticipates supporting 244 communities under the Community Partnership Program with $95 million in FY 1993. Many of these partnerships are targeted towards communities having significant minority populations, including a binational U.S.-Mexico Border initiative.

Cooperative Agreements for Communication Projects. CSAP supports communication programs that will help prevent alcohol, tobacco, and other drug problems in high-risk audiences and their environments. CSAP promotes efforts that carefully develop, test, disseminate, and evaluate public information and community health education projects by involving the target audience. In FY 1993, CSAP supported three cooperative agreements under this program. CSAP also has funded a specialized data base and information center. In FY 1993, CSAP will support three cooperative agreements under this program.

Community-Based Research on the Prevention of Alcohol-Related Problems. CSAP and the National Institute on Alcohol Abuse and Alcoholism (NIAAA) sponsor research in

community-based intervention trials for the prevention of alcohol-related problems among high-risk youth groups, young adults, and minority populations. The community-based research program emphasizes intervention using the public health model.

CSAP's National Clearinghouse for Alcohol and Drug Information (NCADI). The clearinghouse is a major Federal resource of current print and audiovisual information on alcohol, tobacco and other drugs. CSAP's Regional Alcohol and Drug Awareness Resource (RADAR) Network works in partnership with NCADI and consists of State clearinghouses, specialized information centers of national organizations, the Department of Education Regional Training Centers, and others. They help distribute information, conduct media campaigns, and obtain feedback for improving communication services and products.

Message and Materials Review and Development. CSAP is engaged in the review and evaluation of the plethora of alcohol, tobacco, and drug messages and materials that have been developed by both the public and the private sectors. Reviewers assess the accuracy, consistency, utility, and appeal of current messages and materials and identify areas where new materials need to be developed. As appropriate, CSAP generates new messages and materials, especially for hard-to-reach and high-risk audiences.

PreventionWORKS! Campaign. CSAP is launching a major new campaign to inform the public how much prevention of alcohol, tobacco, and other drug problems saves in terms of lives, productivity, and overall health care costs. Materials and technical assistance are available through NCADI and the RADAR Network.

The National Prevention Training System. The National Prevention Training System consists of Curriculum Development and Training—to develop and pilot test curricula for health care professionals; Community Prevention Training—to provide specialized training to community partnership grantees and other communities that have established coalitions; Medical Education—for health professionals; and National Volunteer Training for Substance Abuse—training for volunteers in prevention activities. The total appropriation for FY 1993 is $14.5 million.

Workplace Programs. These programs set standards for drug testing in workplace settings. The budget for contracts to support this effort has been established at $1.1 million for FY 1993. The Employee Assistance Program (EAP) will provide assistance to public and private nonprofit employers who cannot afford to establish and operate EAPs without Federal assistance. Funds were not appropriated for this program in FY 1993.

State Liaison Program. This program is designed to support alcohol, tobacco, and other drug abuse prevention efforts in the States. This objective is pursued through three groups of activities. First, CSAP works with the States to enhance their development and support of activities funded by the Substance Abuse Block Grant. Second, CSAP supports methodological development of tools necessary to improve the prevention services in the States, such as needs assessment, program evaluation, and development of practice guidelines called Prevention Enhancement Protocols. Finally, CSAP coordinates its various programs of technical assistance to States and capacity-building initiatives with allied professional organizations to achieve mutual prevention objectives.

Field Development. Components of CSAP's field development include the Learning Community, technical assistance efforts to community prevention programs, Exemplary Prevention Program Awards, special prevention Issue Forums, an Impaired Driving Initiative, and multichannel Media Campaigns such as Urban Youth Public Education Campaign, Children of Alcoholics Education Program, Put on the Brakes! Take a Look (At College Drinking), and Piensalo! Stay Smart! Don't Start! Through its conference grants program, CSAP funded 40 prevention conferences in FY 1993.

Resource Centers. CSAP operates three national resource centers that provides technical assistance in specific program areas. They are the National Resource Center for Prevention of Perinatal Abuse of Alcohol and Other Drugs, the National Volunteer Training Center for Substance Abuse Prevention, and the National Prevention Evaluation Resource Center.

Prevention Pipeline. CSAP's bimonthly newsletter, *Prevention Pipeline*, provides information about alcohol, tobacco, and other drug prevention efforts to more than 6,500 subscribers. Reader exchanges are encouraged. The results of evaluation efforts, information about upcoming events and CSAP findings are reported.

Linkages and Interagency Cooperation. Since its inception in 1986, CSAP has forged linkages with other agencies to develop comprehensive approaches for prevention and early intervention. CSAP and the Department of Justice have established boys' and girls' clubs in public housing projects. CSAP and the National Crime Prevention Council, the Bureau for Juvenile Assistance, and private publishers produced 4 million children's coloring books and comic books with an antidrug message. CSAP and other Federal clearinghouses developed an interagency publications catalog for local and State policymakers. CSAP also collaborated with the Departments of Education and Transportation on a series of workshops to help prevent traffic accidents due to alcohol and other drug use.

CENTER FOR SUBSTANCE ABUSE TREATMENT (CSAT)

The Center for Substance Abuse Treatment was created in October 1992 with the congressional mandate to expand the availability of effective treatment and recovery services for alcohol and other drug problems.

An estimated 21 million Americans abuse alcohol and other drugs. To meet the needs of these individuals and their family members, who together number in excess of 75 million, an array of intervention, treatment, and recovery programs exist in thousands of communities across the United States.

It is in this context that CSAT endeavors, in partnership with State and local governments and community based pro-

grams, to improve the availability and effectiveness of addiction treatment and recovery services on a nationwide scale.

CSAT Prevention Highlights

In support of its vision and mission, CSAT currently administers the following programs.

Substance Abuse Prevention and Treatment Block Grant. CSAT is responsible for administering the Substance Abuse Prevention and Treatment (SAPT) block grant, whose total FY 1993 funding is authorized at $1.5 billion. These funds are allocated to each State according to a formula legislated by Congress. States distribute these funds to cities and counties based upon need. Funds may be used for the conduct of State/local demand and capacity assessments; the development of statewide prevention and treatment improvement plans for narrowing service gaps, implementing staff training efforts, and fostering coordination among substance abuse treatment, primary health care, and human service agencies; and addressing human resource requirements, clinical standards, and identified treatment improvement goals.

Capacity Expansion Program. The Capacity Expansion Program (CEP) provides resources for the creation of new addiction treatment capacity in jurisdictions where there is a documented gap between the need for treatment and the availability of existing services. CSAT's capacity expansion grants target population cohorts who are at high risk for substance abuse-related morbidity and mortality, such as adolescents (aged 10–18); racial and ethnic minority populations (any age or gender); women, their infants and children; the homeless or runaways; and residents of rural areas or migrant farm communities.

Target Cities Program. Under the Target Cities Program, States apply on behalf of major cities for funding to (1) develop central intake, assessment, and referral units; (2) improve patient/client tracking systems; (3) facility improvements; (4) formal coordination of treatment and recovery programs with health, human services, education, criminal justice, and other agencies; and (5) staff training and development. Central intake, assessment, and referral systems are a mandatory component of the program.

Critical Populations Programs. CSAT funds demonstration projects for treatment program/treatment system enhancements that are geared toward adolescents, racial and ethnic minority populations, residents of public housing and the homeless, women, their infants and children, and rural populations. CSAT funds the following program components: (1) enhanced outreach methods; (2) provision of onsite primary medical care or establishment of formal arrangements for providing acute medical care; (3) testing for HIV/AIDS and sexually transmitted diseases; (4) staff training; (5) health education (including AIDS education); (6) life-skills counseling; (7) educational and vocational counseling; (8) enhanced recovery support (including alcohol- and drug-free cooperative housing post-residential treatment); (9) psychological and psychiatric services for patients with mental disorders; and (10) facility improvements.

Criminal Justice Programs. CSAT funds demonstration projects for treatment program enhancements that are geared toward substance abusers in the criminal justice system in one or more of the following areas: (1) improved coordination of all facets of the criminal justice system (i.e., courts, jails, social services) and treatment systems; (2) policies and procedures for diverting arrestees into treatment in lieu of incarceration; (3) onsite provision of alcohol and other drug treatment services in a jail or prison setting; (4) primary medical care (including HIV/AIDS testing, counseling, and prevention); and (5) educational counseling and job training services.

Treatment Campus Program. Under this program, cooperative agreements are established between States and CSAT to establish campuses. The goals of the campus program are (1) to enhance treatment capacity; (2) to improve the quality of treatment, especially through the provision of primary medical care and HIV/AIDS testing, counseling, and prevention; and (3) to create a controlled environment for the assessment and evaluation of the efficacy of differing approaches to residential treatment. The total patient/client population on each campus will eventually be 350.

Programs for Women, Their Infants and Children. In FY 1993, the Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) Reorganization Act authorized CSAT to establish programs that assist in providing comprehensive substance abuse treatment in residential settings for women, their infants and children, including housing that permits children to reside with their mothers.

These treatment services to or on behalf of women will include (1) prenatal and post-partum health care; (2) pediatric care, counseling, and other mental health services; (3) parenting training; (4) counseling on AIDS, domestic violence, sexual abuse, and employment; (5) counseling to assist re-entry into society; and (6) case management services.

HIV/AIDS Outreach Program. This 3-year program is designed to (1) seek out injecting drug users (IDUs), other high-risk substance abusers, and their sex partners and encourage entry into and arrange for treatment of chemical dependency; (2) provide medical diagnostic services for HIV/AIDS and related illnesses (e.g., sexually transmitted diseases and TB); and (3) provide information, skills, and other prophylactic means to effect behavior changes most likely to decrease the risk of acquiring or transmitting HIV and related diseases. The goal of the program is to demonstrate replicability and cost-effectiveness of community-based intervention strategies (models) and to determine if these modified behaviors produce changes in the incidence of HIV and related diseases in the targeted populations and communities.

Resource Development Programs. CSAT has implemented a wide array of resource development programs, all of which are designed to improve service delivery.

State Systems Development Program. CSAT created a State Systems Development Program (SSDP) to enhance accountability for State management of substance abuse treatment and prevention programs. SSDP involves (1) development of statewide substance abuse treatment and prevention plans, (2) State assessments of the State's needs for substance

abuse treatment and prevention programs, (3) onsite State performance and technical reviews, (4) targeted technical assistance to States, and (5) creation of a national data base of current State treatment and prevention information. SSDP monitors State compliance with statutory requirements for using block grant funds and State expenditures at the provider level. The program also provides assistance to States in matching treatment and prevention needs and service capacity to optimize the provision of appropriate services.

Primary Care/Substance Abuse Linkage Program. This program is designed to strengthen the linkages between the primary health care arena and the alcohol, drug abuse, and mental health (ADM) treatment systems. Under this program, CSAT has convened regional workgroups of medical and ADM consortia and practitioners, which have identified major issues, barriers, and constraints that interfere with close and essential collaboration between primary medical care and ADM providers. A national steering committee was formed to provide guidance for the 1992 Secretarial Conference of the Substance Abuse Linkage Initiative. Another component of this program is a Federal demonstration grant program in FY 1993 that focuses on the delivery of primary health care services in ADM treatment environments. HIV/AIDS testing, counseling, prevention, and treatment constitutes a requisite component of this program. CSAT will also be working with medical and professional organizations to provide education and training in substance abuse.

Institutional and Professional Training and Education Program. CSAT is implementing a nationwide counselor training effort as an adjunct to the Center for Substance Abuse Prevention's (CSAP) National Training System. In FY 1993, CSAT will expand a program designed to expose minority medical students, substance abuse counselors, and other health professionals to addiction treatment environments through participation in summer and in-term fellowships in addiction treatment programs.

OTHER DHHS AGENCIES

Administration on Aging (AoA)

The Administration on Aging supports State and local efforts to address health care, economic, and social concerns of older Americans through the network of State and Area Agencies funded under the Older Americans Act. In addition, AoA funds a number of discretionary research and demonstration projects to carry out annual priorities.

AoA Prevention Highlights

National Eldercare Institute on Health Promotion. In 1991, AoA entered into a 3-year cooperative agreement with the American Association of Retired Persons to fund the National Eldercare Institute on Health Promotion (NEIHP). NEIHP is designed to encourage healthy behaviors, reduce the risks for chronic and preventable conditions, and maintain and improve functioning among physically and/or mentally impaired older persons. NEIHP (1) serves as a knowledge base and program resource on health promotion, disease prevention, and disability prevention for older persons; (2) promotes the effective transfer, dissemination and utilization of relevant information on health promotion to audiences across the continuum of care; and (3) provides training and technical assistance on health promotion and aging, focusing on the aging network. Meharry Medical College is encouraging community outreach and assisting the Institute in its focus on minorities. Under the joint sponsorship of AoA and NIA, NEIHP has brought together an interagency workgroup on health promotion with members from a number of PHS agencies and other Federal departments.

Prevention Activities for Older Minorities. NEIHP has published *Black Elders and Health-Related Issues: A Focus Group Study* and *Hispanic Elders Discuss Health Interests and Needs*, which focus on attitudes and barriers toward health promotion and health promotion messages, and a training manual, *Delivery of Health Promotion Programs: Outreach to Minority Elders*, which provides background information related to the issues and concerns of minority elders and strategies for reaching the various groups. It offers practical ideas about how to apply this knowledge to program planning and implementation. *A Guide to the Development of Health Promotion Programs for Minority and Low-Income Adults* is being developed to stimulate development of health promotion programs for minority and low-income elders.

Meharry Medical College has been conducting community forums targeted at predominantly low-income black urban and rural populations in Nashville, Tennessee. The forums, which covered heart disease, glaucoma, depression, cancer, nutrition, and exercise, were carried on VIACOM, the Nation's largest television cable company. In addition, Meharry will be developing a manual on how to develop a community outreach program.

National Council on Patient Information and Education (NCPIE). Sponsored by NCPIE, the Talk About Prescriptions Month campaign publicizes the importance of proper use of medications to professional health care providers and other caregivers involved with medication management. Articles about medication management for older persons and a planning guide are distributed to over 15,000 health and aging professionals concerned with caregiving for older persons.

National Osteoporosis Foundation (NOF). National Osteoporosis Week in May is an opportunity to reach millions of Americans with osteoporosis awareness, prevention, and treatment messages. Over the past 6 years, NOF has printed kits on prevention activities. NOF also disseminates materials from a project that AoA funded in 1991. Entitled "Bonewise," the purpose of this project is to educate older persons and their caregivers about the signs and symptoms of osteoporosis, how to prevent it, and how to live with it.

Nutrition Services for the Elderly. AoA's nutrition program supports Area Agencies on Aging in providing nutritionally sound meals and other nutrition-related services to elderly people and their spouses. Some 250,000,000 meals are served to older Americans per year, 40 percent to homebound elderly.

National Eldercare Institute on Nutrition. The National Eldercare Institute on Nutrition was established in 1991 as a 3-year cooperative agreement between the AoA and the National Association of Nutrition and Aging Services Programs (NANASP). Other partners include the National Association of Meals Programs, the National Association of State Units on Aging, the National Meals on Wheels Foundation, the DuPont Corporation, Ross Laboratories, and the Nestle Corporation. The Institute provides policy and issue analysis, public information materials on the nutrition needs of the at-risk elderly, and technical assistance to State aging networks and community-based long-term care staff, private sector food and packaging corporations, and other organizations. The Institute is conducting a series of futures symposiums to develop a strategic plan to provide a blueprint for nutrition services in the year 2000 and beyond. A scientific research conference for gerontological nutrition professionals, sponsored by the Institute and Nestlé USA, was held in spring 1993.

Mental Health. Beginning in FY 1993, AoA is developing and training programs to meet the needs of older persons at risk of mental health impairment in areas that are underserved by mental health professionals. The programs will train clergy, primary health care professionals, social workers and aides, and community volunteers, to detect risk factors and behaviors characteristic of depression and other disorders among frail elderly and to communicate this information to mental health care professionals.

Elder Abuse. AoA's elder abuse strategy consists of State Long-Term Care Ombudsman, Elder Abuse Prevention Programs, and the National Eldercare Institute on Elder Abuse and State Long-Term Care Ombudsman Services. The 1992 amendments to the Older Americans Act require AoA to establish a National Center on Elder Abuse and a National Long-term Care Ombudsman Resource Center in 1994.

Eldercare. Project CARE community coalitions were established in approximately 800 communities to focus on a specific need of the elderly and what public/private collaboration can do to serve them. Thirteen National Eldercare Institutes were established under a 3-year cooperative agreement to build the knowledge base and provide technical assistance to these coalitions.

Administration for Children and Families (ACF)

Established in April 1991, the Administration for Children and Families (ACF) is the Federal agency that focuses on the needs of America's children and families. ACF provides national leadership and direction in the administration of assistance and services programs designed to promote family stability, self-sufficiency, responsibility, and economic security. These programs focus on improving the well-being of low-income families, neglected and abused children and youth, Native Americans, and individuals with lifelong disabilities.

ADMINISTRATION ON CHILDREN, YOUTH, AND FAMILIES (ACYF)

The Administration on Children, Youth, and Families is made up of four major offices and administers more than 20 statutory programs serving children, adolescents, and families.

Head Start

Head Start is a national program that provides comprehensive developmental services for America's low-income preschool children and their families. Each Head Start program must provide (1) education; (2) parent involvement; (3) social services; and (4) health, including medical, dental, mental health, and nutritional services. Together, these components play an important part in the prevention and amelioration of health problems, including mental health, among Head Start children. Over 600,000 children are enrolled in over 31,000 Head Start classrooms.

Through the health component of Head Start, children receive physical examinations, including vision, hearing, and blood tests, immunizations, and referrals for treatment and other services. When screening or referrals indicate that a child may have a disability, evaluations are conducted, individualized education programs are written, and services are provided to reduce the effect, overcome the problem, and prevent secondary disabilities. Mental health services in Head Start are aimed at reducing the often high levels of stress that negatively affect children and families participating in the program. Through the parent involvement component, Head Start parents learn how to promote their children's healthy development. Parents also receive information on, and referrals to, local health resources.

Head Start programs are center-based or home-based. The Parent and Child Centers are home-based and provide comprehensive services to pregnant women and families with children from birth to age 3 to improve the overall development of the child, prevent developmental deficits, and increase parenting knowledge and skills.

In addition, the Head Start program has awarded demonstration grants that focus on prevention. Some 66 Head Start grantees have established Family Service Centers focusing efforts on reducing and preventing substance abuse and attaining self-sufficiency. These projects serve approximately 4,700 Head Start families each year. Also, 32 Head Start grantees received funds to establish Family Support Projects to address substance abuse problems among both Head Start families and staff. Funds were also provided to another seven Head Start grantees, located in cities that receive funding from the Office of Treatment Improvement's Target Cities Program, to improve treatment and support for Head Start families affected by substance abuse.

Through the 22 Head Start–State collaboration projects the goal is coordination among programs serving low-income children and families at the Federal, State, and local levels, especially the Medicaid Early and Periodic Screening, Diagnosis and Treatment Program (EPSDT) is a goal. Nine Head Start programs were awarded grants to work in collaboration with other Federal, State, and local programs, as well as private providers, to improve access to immunization services for infants and toddlers in Head Start families.

Children's Bureau

Child Care and Development Block Grant (CCDBG). The Child Care and Development Block Grant is one of the major child care programs administered by ACF. Funds are available to States, Territories, and Indian tribes to provide grants, contracts, and certificates for child care services. The purpose of the CCDBG is to increase the availability, affordability, and quality of child care for low-income families and to increase the availability of early childhood development services and before- and after-school care. To be eligible, a family must be low-income and need child care either because a parent is working or attending a training or educational program or because the family receives or needs to receive pro-

tective services. For FY 1993, Congress allocated $ 893 million for the CCDBG program.

Abandoned Infants Assistance Act. The purpose of this program is to fund model demonstration projects to prevent the abandonment of infants and children, particularly those who have been exposed to substance abuse and/or who test positive for HIV/AIDS.

National Center on Child Abuse and Neglect (NCCAN)

ACF's child abuse and neglect programs provide both formula and discretionary grants to States and community-based entities to improve and increase activities for the prevention and treatment of child abuse and neglect. The National Center on Child Abuse and Neglect is the focal point within ACF for efforts to identify, prevent, and treat child abuse and neglect.

NCCAN administers six separate programs to assist States and local communities to initial and improve prevention and treatment programs.

Community-Based Child Abuse and Neglect Prevention Grants. Formerly the Child Abuse Prevention Challenge Grants, this program provides funds to States only for child abuse prevention activities. Other State grant programs provide funds to support efforts to prevent the medical neglect of children, particularly medically fragile infants; to improve the process of preventing, investigating, and prosecuting child abuse cases, particularly child sexual abuse; and to develop and strengthen basic child abuse and neglect prevention and treatment programs.

Current NCCAN-funded research, demonstration, and training projects include model approaches to child abuse and neglect services in rural areas; an evaluation of Hawaii's education and support program for new parents to prevent child abuse and neglect; a national replication project to raise public awareness about the dangers of shaking babies; and demonstration projects that address effective parenting skills and provide support for parents in the prevention of child abuse and neglect.

Continued support is being provided to nine Comprehensive Community-Based Child Abuse and Neglect Prevention projects. Initially funded in FY 1991 and continuing through FY 1994, these grants support the planning and development of model physical child abuse and neglect prevention programs designed to address local needs in urban, suburban, and rural communities. The service components include public awareness campaigns, support services for parents under stress, parental health care, parental education, and the prevention of alcohol and drug-related child abuse and neglect.

The Emergency Child Abuse and Neglect Prevention Services Grants provide prevention and intervention services to children and youth who are victims or at risk of child maltreatment by parents who are substance abusers. Project activities include specialized training for protective service workers; coordinated, comprehensive multidisciplinary service delivery models; information/education projects regarding the relationship between substance abuse and child abuse; and projects to improve service delivery to children of substance abusers and to remove barriers to treatment of the parents' addiction.

Family and Youth Services Bureau (FYSB)

An estimated 500,000 to 1.5 million young people in America are runaways or homeless, often through no fault of their own. As a result, they are exposed to the exploitation and dangers of street life including crime, prostitution, and substance abuse. The programs administered by the Family and Youth Services Bureau offer prevention and intervention strategies to help at-risk youth and their families overcome the negative aspects of their life situations and to become competent, independent, drug-free adults who maintain themselves, outside the social welfare system.

Runaway and Homeless Youth Program. Through approximately 360 Basic Centers nationwide, staff try to reunite youth with their families whenever possible or to arrange alternative, safe placements when such reunification is not possible. All Centers provide crisis intervention, shelter, food, clothing, outreach; counseling, and family reunification and aftercare services to runaway and homeless youth and their families. Services also include prevention activities related to substance use and abuse, sexuality, sexually transmitted diseases, and HIV/AIDS.

Through approximately 100 projects nationwide, the **Drug Abuse Prevention Program for Runaway and Homeless Youth** supports research, demonstration and service efforts to prevent and reduce the use of illicit drugs by runaway and homeless youth. These projects most often work with emergency shelters or transitional living programs to provide family, group, and peer counseling; community education and outreach; and training for youth workers. Research efforts include studies of illicit drug use by runaway and homeless youth, the effects of substance abuse on family members, and the correlation between youth substance abuse and suicide.

The Transitional Living Program for Homeless Youth supports approximately 90 comprehensive projects nationwide in which homeless youth, in a supervised setting for up to 18 months, receive training in life skills. The training includes courses in social and emotional development, employment orientation, and entry or re-entry into appropriate education programs along with emphases on maintaining physical, mental health and proper nutrition.

The Youth Gang Drug Prevention Program supports approximately 50 projects nationwide aimed at diverting at-risk youth from gang membership and reducing and preventing drug trafficking. Specific prevention activities include promoting the involvement of youth in lawful activities in communities in which gangs commit drug-related crimes; educating youth about drug abuse; providing support to police, schools, employment and social service agencies in their outreach, referral, treatment, and rehabilitation efforts; and providing training and technical assistance to youth workers.

OFFICE OF FAMILY ASSISTANCE (OFA)

OFA is responsible for several programs that help low-income families to meet their immediate financial needs and to become and remain economically and socially self-sufficient. The programs include the Aid to Families with Dependent Children (AFDC) and the Job Opportunities and Basic Skills Training (JOBS) programs. AFDC provides recipients

with automatic eligibility for Medicaid. JOBS helps AFDC recipients to achieve self-sufficiency and also provides a year of transitional Medicaid benefits.

OFA Prevention Highlights

A few States have received waivers of AFDC statutory provisions to operate demonstration programs involving preventive health care requirements. For example, Georgia has an approved demonstration project called the Preschool Immunization Project that requires families to immunize preschool children or have AFDC benefits reduced. The Alabama AFDC Demonstration Project is designed to test the effectiveness of two outreach and education programs on the measles immunization coverage levels of preschool-age children. Maryland applies fiscal sanctions to AFDC cases that do not comply with specific requirements related to preventive health care: that preschool-age children must receive scheduled Early and Periodic Screening, Diagnosis and Treatment (EPSDT) services; school-age children and adults must receive annual preventive health check-ups; and pregnant women must receive regular prenatal visits.

OFFICE OF CHILD SUPPORT ENFORCEMENT (OCSE)

The Child Support Enforcement program, which is administered by OCSE, reduces welfare dependency, encourages continuing family relationships, and promotes individual parental responsibility for the financial support of their children by locating absent parents, establishing paternity, and establishing and enforcing support obligations.

OCSE Prevention Highlights

Paternity establishment is an important part of the Child Support Enforcement program. Children benefit psychologically, socially, and economically when paternity is established. Medical support is a part of support orders established against parents. In FY 1992, 515,429 paternities were established.

ADMINISTRATION ON DEVELOPMENTAL DISABILITIES (ADD)

ADD funds efforts to advocate for and coordinate the expansion of the social and economic integration into society of the almost 4 million Americans with severe mental or physical disabilities under the age 22.

ADD Prevention Highlights

University Affiliated Programs (UAPs). The University Affiliated Programs are authorized under the Developmental Disabilities and Bill of Rights Act. Through awards made to 58 universities and satellite centers, ADD supports the development, coordination, and implementation of prevention activities through education and community-based activities. These include the interdisciplinary training of personnel and the demonstration and dissemination of findings related to the provision of services to persons with developmental disabilities. Specific prevention activities include early intervention services; counseling and training of parents; early identification, diagnosis, and evaluation of developmental disabilities; and projects to modify violent and abusive behavior.

Projects of National Significance. ADD funds a variety of projects that address the impact of HIV and AIDS on the lives of children, adolescents, and adults with developmental disabilities, including the health and social service needs of children with HIV or AIDS. Other projects have been funded to develop tools and procedures for the analysis and assessment of State policies and practices on the prevention of developmental disabilities; to promote best practices in early identification and provision of services to children with disabilities; and for the identification, prevention, and treatment of substance abuse, including fetal alcohol syndrome.

The Home of Your Own is a set of basic principles developed by ADD to enable more positive futures for people with disabilities and their families, and several cultural diversity projects designed to assure that agencies serving persons with developmental disabilities are aware of and address the needs of ethnic/racial minorities.

Developmental Disabilities Planning Councils. ADD provides formula grant funding to 56 States and jurisdictions for the purpose of supporting a Developmental Disabilities Planning Council. Established to assist States in developing and implementing a comprehensive plan for meeting the needs of persons with developmental disabilities, the Councils advocate for coordination of activities for the prevention of developmental disabilities, especially early intervention services for infants, toddlers, young children, and families.

Protection and Advocacy Systems (P&As). The Protection and Advocacy Systems operate in each State and Territory to provide legal, administrative, or other solutions to resolve issues for individual and class action clients. In addition to advocacy services, P&As provide information, referral services, training, and technical assistance activities to people with developmental disabilities, their families, or guardians.

OFFICE OF COMMUNITY SERVICES (OCS)

OCS Prevention Highlights

Social Services Block Grant Program (SSBG). The major source of Federal funding for State social services programs is the Title XX Social Services Block Grant. For FY 1992–1994, $2.8 billion is authorized for this program. SSBG goals include self-support or self-sufficiency; preventing or remedying the neglect, abuse, or exploitation of children and adults unable to protect their own interests; and preventing or reducing inappropriate institutional care. States determine the services to be provided and the eligibility criteria; typical preventive services include home-based services (home-maker, home health, and chore services) to prevent abuse and neglect and bring about family stability; health-related services, including

preventive medical care and in-home health services; counseling, including mental health services; family planning; and substance abuse services.

Low-Income Home Energy Assistance Program (LIHEAP). These funds are distributed to States, Territories, and Indian tribes to assist low-income households in meeting the costs of home heating and cooling. Grantees are required to set aside "a reasonable amount" of funds each year for energy crisis intervention.

Community Services Block Grant (CSBG). For FY 1993, $372 million was made available through 124 block grants to States, Territories, Indian Tribes, and tribal organizations to address problems faced by low-income persons in the areas of employment, education, housing, food and nutrition, energy, emergency services, and health. Under the CSBG discretionary authority, States, public agencies, and private nonprofit organizations receive funds that provide services such as affordable, adequate, and safe water and waste water treatment facilities in low-income rural communities; health and nutrition programs for migrants and seasonal farm workers; and the National Youth Sports Program, which provides a comprehensive developmental and instructional sports program, including nutritional and medical components, serving over 61,000 low-income youth.

Community Food and Nutrition Program. This program provides assistance to public and private agencies at the State and local levels to initiate nutrition programs for low-income individuals.

Emergency Community Services Homeless Grants. Grants are awarded to States and Indian tribes for programs to assist the homeless and help them make the transition out of poverty.

OFFICE OF REFUGEE RESETTLEMENT (ORR)

The Office of Refugee Resettlement, in partnership with the States, national voluntary resettlement agencies, and refugee-based mutual assistance associations, assists refugees to achieve economic self sufficiency after resettlement in the United States. To be designated as refugees, individuals must have a well founded fear of persecution in their country of residence due to race, religion, nationality, or political opinion. In FY 1992, approximately 141,000 refugees and Amerasians were admitted to the United States.

ORR Prevention Highlights

Refugees may have health problems due to environmental conditions and lack of medical care that may exist in their country of origin. In addition, refugees may experience health problems in the camps while waiting for resettlement. The Department of State provides funding for medical screening of refugees prior to entry into the United States.

Refugee medical problems may affect the public health as well as prevent refugees from achieving economic self-sufficiency In 1992, over $5.6 million was expended to review medical records at the port-of-entry to ensure that refugees received prompt attention and to reimburse States for cost incurred in providing health assessments to refugees and treatment for refugees with medical conditions.

ADMINISTRATION FOR NATIVE AMERICANS (ANA)

Under the Native American Programs Act of 1974, competitive financial assistance is available to promote social and economic self-sufficiency for American Indians, Alaska Natives, Native Hawaiians, and Native American Pacific Islanders.

ANA Prevention Highlights

ANA funding supports Indian tribal governments and other Native American organizations in the development of community-based social and economic development strategies. The social development goal is to support local access to, and coordination of, services and programs that safeguard the health and well-being of people in the community. Examples of health-related objectives in a number of projects include efforts to reduce the incidence of alcohol and drug abuse and to increase access to health services. ANA is continuing its Native American Youth Alcohol, Drug, and Smoking Prevention Initiative with a national Campaign for Healthy Lifestyles, which is a holistic approach to prevent alcohol and other substance use and abuse, and a specific youth-generated national War on Alcohol, which was launched in early 1993.

PRESIDENT'S COMMITTEE ON MENTAL RETARDATION (PCMR)

The President's Committee on Mental Retardation is mandated by Executive Order to "evaluate the status of the national effort to combat mental retardation" and "develop and disseminate such information as will tend to reduce the incidence of mental retardation and ameliorate its effects." PCMR acts in an advisory capacity to the President and the Secretary of Health and Human Services on critical matters regarding programs and services for persons with mental retardation. In addition, PCMR coordinates Federal agency activities in mental retardation; conducts studies of existing programs; and highlights the need for changes, where appropriate; and promotes research.

PCMR Prevention Highlights

The Committee's Annual Report to the President focuses on reducing the incidence and prevalence of disabilities, particularly when socioeconomic conditions are known to be contributing factors. The report concentrates on the new morbidities, i.e., any combination of mental, physical, social, educational, health, environmental, and psychosocial condi-

tions that result from socioeconomic disadvantage and, together, render a child at risk of developing mental retardation or related disabilities. The report gives the status of the national effort to minimize the occurrence and ameliorate the effects of mental retardation and identifies agencies, organizations, foundations, and institutions that are implementing services known to be effective in preventing disabilities.

Health Care Financing Administration (HCFA)

The Health Care Financing Administration (HCFA) manages both the Medicare program and the Federal portion of the Medicaid Program, which is jointly funded but directly administered by the States. While Medicare serves virtually all people over 65 in the country, the Medicaid program provides health care benefits primarily to low income families and certain groups of the aged and disabled. HCFA stresses the timely delivery of appropriate, quality health care to its beneficiaries—for 1993 an estimated 36.2 million Medicare clients and 31.5 million Medicaid recipients. Through the promotion of coordinated care systems, Medicaid maternal and child health initiatives, a variety of other Medicare and Medicaid benefits and innovative research and demonstration projects, HCFA programs also emphasize disease prevention and health education. Their strong preventive care orientation enhances the quality of life for beneficiaries and slows the rise in health care costs.

HCFA PREVENTION HIGHLIGHTS

Medicaid Program. Title XIX of the Social Security Act provides for a program of medical assistance, "Medicaid," for certain individuals and families with low incomes. This means-tested entitlement program was enacted in 1965 as a jointly funded Federal and State cooperative venture. Within broad Federal guidelines, each State determines (1) its own eligibility requirements; (2) the amount, duration, and scope of services to be covered; and (3) the rate-setting methods and levels of service reimbursement. Since each State also administers its own program, Medicaid programs vary from State to State.

Medicaid covers and facilitates the provision of preventive health services in three ways: (1) as an integral component of its required comprehensive child health program for eligible beneficiaries under 21, known as Early and Periodic Screening, Diagnosis, and Treatment (EPSDT); (2) as an integral component of mandatory Medicaid services such as physician, laboratory and x-ray, and outpatient hospital services; and (3) through certain optional services, such as clinic services, optometrist services, or the preventive services benefit. Currently, 28 States offer these optional services.

Medicaid's EPSDT program requires States not only to finance but to develop and manage a comprehensive health program that assesses children's health needs through initial and periodic examinations screenings. These examinations screenings include comprehensive histories and physical exams, counseling, age-appropriate immunizations, tuberculosis skin testing when appropriate, and laboratory tests including lead screening tests. The Medicaid Child Health Initiative is designed to improve participation in the EPSDT program and involves the efforts of many PHS agencies.

For women's preventive health services, all States and the District of Columbia cover cervical cancer screening and follow-up services for abnormal Pap smears. Currently, 47 jurisdictions cover mammography screenings and all jurisdictions cover medically necessary mammography.

Virtually all Medicaid managed care programs, whether primary care case management systems or capitated health maintenance organizations, emphasize preventive services such as periodic health check-ups, immunizations, mammography, and cervical cancer screening. Increased enrollment in Medicaid managed care programs is a key program priority, so that coordinated care, rather than unfettered fee-for-service, will be the norm. The number of Medicaid managed care enrollees increased to 3.6 million in 1992, up 35 percent from 1991.

Federally Qualified Health Centers (FQHCs) was added as a separate mandated benefit to the Medicaid program, effective April 1, 1990. This expanded the availability of covered Medicaid services to recipients who use the Community, Migrant, or Homeless Health Center programs. The Centers, which are established under PHS grant-funded programs, focus on delivery of primary and preventive health care services to communities that are medically underserved or that have shortages of medical manpower. Expanded Medicaid payments for services under the FQHC benefit enabled the Centers to provide more health services to the people they serve, both Medicaid recipients and other people with low incomes.

Medicare Program. On October 1, 1991, a new benefit became available to Medicare beneficiaries who obtain services at a FQHC. This new benefit covers a wide range of preventive services.

To provide Medicare beneficiaries with opportunities for the early detection of cervical and breast cancer, the Pap smear screening benefit was established effective July 1, 1990, and the mammography screening benefit was added to the program effective January 1, 1991. The Pap smear screening benefit includes coverage of a clinical laboratory's evaluation of the sample and (when necessary) a pathologist's interpretation of the sample. It allows for coverage of one Pap smear

screen every 3 years, or more often when there is evidence that the beneficiary is at high risk of developing cervical cancer and her physician recommends that she be tested more frequently. The mammography screening benefit provides for coverage of a radiological procedure and a physician's interpretation of each film or image. The frequency of coverage of these screening services is limited according to a patient's age. In the case of women over age 34 but under age 40, coverage frequency also is based upon whether individuals are considered to be at high risk of developing breast cancer on the basis of their family and personal medical history.

Most Medicare beneficiaries enrolled in HMOs under HCFA's coordinated care program receive preventive services not covered under fee-for-service Medicare, such as annual physical exams, certain immunizations, vision and hearing tests, colorectal screenings, and health education.

Research and Demonstration Projects. HCFA has several ongoing research and demonstration projects.

A 6-year cooperative agreement awarded to the University of North Carolina was concluded in 1992. The project used randomized trials with four comparison groups: clinical screening only, health promotion only, clinical screening plus health promotion, and usual care. The clinical screening package included services such as blood pressure checks, vision and hearing tests, and a medical history. The health promotion services include counseling on such topics as physical activity, nutrition, and falls and accident prevention. The final report reveals that beneficiaries receiving the interventions experienced small, positive gains in health and quality of life indicators relative to beneficiaries in the control group at the 2-year follow-up. However, the study determined the preventive services intervention to be cost neutral.

Section 4071 of the Omnibus Budget Reconciliation Act (OBRA) of 1987 mandated that the Secretary of Health and Human Services conduct a demonstration to test the cost-effectiveness of including influenza vaccine as a covered treatment under Medicare. HCFA worked with CDC to implement the demonstration in 1988. OBRA '87 also mandated a demonstration to test the cost-effectiveness of providing therapeutic shoes to Medicare beneficiaries with severe diabetic foot disease. The demonstration was implemented in 1989. Both the influenza vaccine and therapeutic shoe demonstrations continued through October 1992. Evaluation of the influenza vaccine concluded with a report to Congress in April 1993 showing that under certain conditions and circumstances the vaccine is cost-effective. Coverage of both the influenza vaccine and therapeutic shoes began under Medicare in May 1993.

The Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1985 directed the Secretary to establish a 4-year demonstration program designed to reduce disability and dependency by providing preventive health services to Medicare beneficiaries. In May 1988, HCFA awarded cooperative agreements to the University of Washington, Johns Hopkins University, San Diego University, the University of Pittsburgh, and the University of California at Los Angeles to conduct demonstrations under the program. They made available to Medicare beneficiaries health screenings, health risk appraisals, and immunizations. Also available were counseling on and instruction in diet and nutrition; reduction of stress; exercise and exercise programs; sleep regulation; injury prevention; prevention of alcohol and drug abuse; prevention of mental health disorders; self-care, including use of medications; and reductions or cessation of smoking. The demonstrations were recently extended to allow for an additional year of tracking. The final report to Congress is due in April 1995.

In September 1992, HCFA awarded a research project entitled "Comparative Study of the Use of EPSDT and Other Preventive and Curative Health Care Services by Children Enrolled in Medicaid." The purpose of this study is (1) to examine the effect of changes in the use of the EPSDT program in four States, as a result of OBRA 1989, on the process of providing health services to children and the appropriateness of expenditures for services provided; (2) to compare Medicaid-eligible children enrolled in EPSDT programs with other Medicaid-eligible children who are not receiving EPSDT services in terms of service utilization and expenditures, with a particular emphasis on preventive health services; and (3) to compare children enrolled in the Medicaid program with non-Medicaid children, insured and uninsured, on the use of and expenditures for preventive services and other health care services, using national survey data. The final report is expected September 1995.

Department of Agriculture (USDA)

The Department of Agriculture administers a variety of programs with prevention components, including food and nutrition programs. Because of the impact of these programs on the lives of millions of Americans, USDA in June 1993 held the largest federally sponsored hunger symposium since the 1969 Conference on Food, Nutrition and Health. The forum, which focused on the extent and nature of hunger in America, is part of an effort to reinvent the food assistance programs to better reach people in need, to promote self-sufficiency through nutrition education, and to alleviate the nutrition and health consequences of inadequate diets.

The nutrition guidance offered through the food assistance programs is based on the *Dietary Guidelines for Americans*, which were updated and published jointly by USDA and DHHS in 1990.

Prevention activities also focus on food safety, family health, and nutrition education.

USDA PREVENTION HIGHLIGHTS

Promotion of the *Dietary Guidelines for Americans*. USDA's Human Nutrition and Information Service (HNIS) and DHHS's Office of Disease Prevention and Health Promotion jointly coordinate the development, publication, and distribution of the *Dietary Guidelines*. HNIS interprets the *Guidelines* for consumer audiences (see Nutrition Education). USDA's Food and Nutrition Service implements the *Guidelines* in the domestic food assistance programs it administers. The Extension Service, through its partnership with the Cooperative Extension System, uses the *Guidelines* as the foundation of its nutrition education programs.

Food Assistance Programs. USDA's Food and Nutrition Service (FNS) administers a variety of food assistance programs. The Food Stamp Program supplements the food purchasing power of needy households. Program benefits are based on a low-cost, nutritious diet (The Thrifty Food Plan). Other USDA food assistance programs include the National School Lunch and School Breakfast Programs; the Child and Adult Care Food Program, which helps day-care facilities and institutions serve nutritious meals to preschool and school-age children and certain adults; the Summer Food Service Program, which helps communities serve meals to needy children when school is not in session; the Special Supplemental Food Program for Women, Infants, and Children (WIC), which provides supplemental foods, nutrition education, and health care referrals to low-income pregnant, breastfeeding, and post partum women, as well as to infants and children up to age 5 who are at nutritional risk; the Commodity Supplemental Food Program, which provides USDA commodities to a population similar to the WIC Program, as well as to children up to age 6 and low-income elderly persons age 60 and over; and the Special Milk Program, which makes it possible for children attending a participating school or institution to receive free milk or purchase it at a reduced rate. Commodity distribution programs include the Emergency Food Assistance Program, under which needy households receive a variety of commodities, and the Food Distribution Program on Indian Reservations, which is available in lieu of food stamps to Native Americans and their families.

As a first step in assisting program cooperators to put the *Dietary Guidelines* into practice, USDA, with DHHS, published *Building for the Future, Nutrition Guidance for the Child Nutrition Programs*. Over 475,000 copies have been printed and distributed to program cooperators.

FNS is analyzing the current National School Lunch Program (NSLP) meal pattern to determine if it meets the nutritional goal of one-third of the 1989 Recommended Dietary Allowances for key nutrients and the 1990 *Dietary Guidelines* for fat, and if it meets appropriate calorie levels. FNS also plans to develop and standardize additional quantity recipes for the NSLP, which will meet meal pattern requirements and reflect the *Dietary Guidelines*.

In addition, FNS will be testing a nutrient-based menu planning system. This alternative approach to menu planning requires that school meals meet a specific nutritional standard, e.g., one-third of the RDA's, rather than a food-based meal pattern. To support this new approach, FNS will work with HNIS to develop a National Nutrient Database for the Child Nutrition Programs. This data base will be used by the software industry to develop nutrient analysis and food service software systems specifically for the Child Nutrition Programs.

Legislation passed in 1989 authorized the USDA to establish and maintain a National Food Service Management Institute at the University of Mississippi for 5 years, through fiscal year 1994. The Institute was founded to improve the general operation and quality of Child Nutrition Programs and other federally assisted feeding programs through training, technical assistance, research activities, and management support.

In addition, FNS's Nutrition Education and Training Program helps support nutrition education efforts in the Child Nutrition Programs.

Nutrition Education. HNIS conducts research on the dietary status of Americans and factors that influence that status, including assessments of knowledge and attitudes toward diet and health. Results of this research and HNIS research studies on communication are used to target nutrition education messages to specific audiences. The *Food Guide Pyramid* released in April 1992 is supported by both USDA and DHHS and has been very well received by the professional community and the public. The food guide, illustrated by the pyramid, was de-

veloped by USDA in the early 1980s to help consumers put the *Dietary Guidelines for Americans* into action in their daily food choices. Other HNIS publications that promote this healthful eating pattern include:

HG-232	*Dietary Guidelines for Americans*, 3rd edition
HG-32S	*La Nutricion y su Salud: Guias para su dieta*, 3rd ed. (official Spanish translation)
HG-232-8	*Preparing Foods and Planning Menus Using the Dietary Guidelines*
HG-232-10	*Shopping for Food and Making Meals in Minutes Using the Dietary Guidelines*
HG-232-11	*Eating Better When Eating Out Using the Dietary Guidelines*
HG-252	*The Food Guide Pyramid*

Through the Food Distribution Program on Indian Reservations, USDA has developed three nutrition education initiatives for Native Americans. First is a series of 12 fact sheets on health and nutrition issues. These publications, which are issued one per month with the FDPIR food package, also include recipes appropriate to each topic. Second, USDA has allocated $135,000 to FNS Regional Offices, which use these funds either to purchase nutrition education materials for agencies that administer FDPIR or to provide competitive nutrition education grants to these agencies. Finally, FNS has formed the Interagency Task Force on Nutrition Education for Native Americans, which includes nine Federal agencies and two national Native American organizations. Through collaboration in delivering nutrition education services to Native Americans, member agencies intend to avoid overlap, conserve resources, stimulate innovation, and ensure effective implementation of sound nutrition education strategies.

The Cooperative Extension System (CES) is USDA's network for food and nutrition education, reaching adults and youth in 3,150 counties in the United States. Educational programs provide individuals and families with the knowledge base to make informed decisions about food, nutrition, and health. Objectives include helping people achieve and maintain optimal weight and reduce risk of chronic disease; give birth to healthy babies; practice responsible and healthy self-care; help children obtain optimal health; minimize nutritional inadequacies and abuses in foods; and improve consumers' ability to make informed choices about food safety, quality, and composition. Educational programs are available to meet the needs of individuals and families from preconception through old age with materials that are culturally appropriate for the intended target audience. An estimated 10 million people are reached nationwide through nutrition education programs.

Health Promotion. USDA is currently assisting in a study with CDC on the effects of smoking reduction programs on smoking behavior and pregnancy outcome for women of child-bearing age in a local health department setting. In addition, the WIC Breastfeeding Study identified effective methods for encouraging new mothers to breastfeed their infants. USDA also recently completed a major study that suggested that participation in WIC can reduce Medicaid costs.

Since June 1990, USDA has hosted meetings twice a year of a Breastfeeding Promotion Consortium composed of 25 organizations, including DHHS. At the Consortium's recommendation, USDA is embarking on a major breastfeeding promotion campaign. DHHS will play a major role in this campaign through a Memorandum of Understanding with USDA.

USDA has also produced a comprehensive packet of materials (videotapes with print companion pieces, posters, resource manual, and brochure) to assist WIC professionals in (1) advising clients about the effects of alcohol and other drugs on pregnancy outcomes; (2) screening for possible drug use; and (3) referring clients for assessment/counseling. USDA has also assisted the CDC in developing a videotape to promote immunizations.

Food Safety Education. USDA's Food Safety and Inspection Service provides food safety information to consumers and the food service industry. Targeted information is being provided to those who are at risk for developing foodborne illnesses. A new, free, food safety publication was released that guides consumers through those critical food handling steps where failure to take appropriate action could result in foodborne illnesses. New in 1991 was a videotape/workbook program for teens, called "The Danger Zone," to be used by home economics, health, and science teachers. The toll-free Meat and Poultry Hotline (1-800-535-4555) provides advice to consumers and identifies areas where consumers are lacking information so that new education programs can be developed.

The CES also provides food safety educational programs (some available in multiple languages) to consumer groups, high-risk individuals and food handlers, and the food service industry. These programs have two primary approaches. The first is to reduce risks present in the food supply by conducting educational programs for producers, processors, food handlers, and consumers to teach them skills required to reduce hazards of contamination. The second is to improve public understanding about scientific and policy bases for risk management decisions.

Human Nutrition Research. USDA's Agriculture Research Service is uniquely equipped to find solutions to national nutrition problems linked to the food supply. Research is directed to defining the nutrient requirements of humans at all stages of life, with emphasis on prevention of diet-related disorders and promotion of health through improved nutrition. Specific efforts are being made to determine the special nutritional needs of infants, pregnant and lactating women, and the elderly. Research is also designed to develop a better understanding of the relationship of nutrition to chronic diseases and obesity.

Youth at Risk. The CES, through a matched funding process, provides targeted prevention and intervention programs to aid communities in addressing needs of youth at risk. To maximize resources and potential impact, programs focus on school-age child care and education, coalitions that support community programming with high-risk youth, and development of literacy and technological literacy in youth at risk.

Farm Safety. The CES has developed education programs that address all aspects of agricultural safety and health, including prevention of traumatic injury and exposure to health hazards; emergency response to farm accidents for the first person on the scene and professional rescue personnel; and rehabilitation of farmers with disabilities. Since its inception,

CES has developed educational programs to address agricultural safety and health issues. These programs educate farmers on how to:

- Reduce their exposure to infectious agents;
- Prevent farm accidents in working with tractors, machinery, livestock, and farm structures; and
- Reduce the severity of the injuries to farm accident victims and rescuers through better rescue and emergency procedures.

In FY 1991, CES began implementing the Education and Assistance Program for Farmers with Disabilities. This program's primary objective is to provide unique services not readily available to an estimated 500,000 farmers and ranchers with disabilities. Its primary effort has been to expand pilot programs that have been developed by experts in CES and the National Easter Seal Society.

Department of Commerce (DOC)

The Department of Commerce, through the National Oceanic and Atmospheric Administration (NOAA), has responsibilities to help ensure the safety and quality of fishery products. Activities include conducting scientific research; conducting a voluntary, fee-for-service seafood inspection program; providing information to the seafood industry and Federal and State regulatory agencies; and collaborating with industry and regulators to develop regulations and seafood processing procedures.

DOC PREVENTION HIGHLIGHTS

NOAA conducts research to assess seafood safety risks related to marine biotoxins, pathogenic microorganisms, and chemical contaminants and to develop prevention and control strategies. Recent efforts include development of the National Plan for Marine Biotoxins, in cooperation with other Federal agencies and academia. This plan will focus efforts on understanding how and why biotoxins occur and developing methods to detect contaminated fishery products. In addition, NOAA's National Marine Fisheries Service (NMFS) works with State and Federal regulators to either prevent the harvest of toxin-contaminated fish and shellfish or to develop processes that effectively render the product safe to consume.

NMFS laboratories are widely recognized for their expertise in research on processing procedures to inactivate and/or inhibit pathogenic microorganisms in seafood products. NMFS has worked closely with seafood processors and State and Federal agencies to develop and implement improved procedures. Recent cooperation among NMFS, the FDA, and industry has produced Good Manufacturing Practices (GMP) guidelines for the smoked fish industry.

Within its current voluntary seafood inspection program, NOAA has begun to offer an inspection service based on Hazard Analysis Critical Control Point (HACCP) principles on a fee-for-service basis. Firms participating in the program identify critical points in their operations, establish controls at each of the points, and monitor these areas to prevent problems before they arise. Label approval, recordkeeping, and analytical testing are included in NMFS HACCP-based program requirements. In addition, each facility/site in the program must have an employee, certified by NMFS, trained in HACCP principles. Benefits to participants include increased controls through a more scientific approach, use of established inspection marks, and enhanced consumer confidence.

In support of risk assessment activities, NMFS has begun to establish a database on seafood contaminants, which will be accessible by other Federal and State agencies. NMFS has also funded a study to develop models for conducting seafood consumption surveys. Pilot studies of the consumption models are scheduled to be completed in 1993.

Department of Defense (DOD)

The Department of Defense health promotion program, as defined in the DoD Directive 1010.10, has been in place since 1986. This program focuses on six key areas: smoking prevention and cessation, physical fitness, nutrition, stress management, alcohol and other drug abuse prevention, and early identification of hypertension. In 1991, a needs assessment resulted in the selection of 181 of the *Healthy People 2000: National Health Promotion and Disease Prevention Objectives* for use by the Armed Services. Further refinement of the objectives into a subset of 45 gave the Armed Services specific guidance regarding the priorities of the DoD.

DOD PREVENTION HIGHLIGHTS

Women's Health Issues Policy Initiative. A 1992 Women's Health Issues Policy initiative addressed several health maintenance issues. DoD offers annual health examinations, which include, but are not limited to, papanicolaou smear, pelvic examination, breast examination, blood pressure measurement, family planning, and contraceptive counseling for all women beneficiaries. DoD also requires a baseline mammogram at the age of 40 for all active duty women and offers this service to all other women beneficiaries.

Cancer Prevention. A DoD and American Cancer Society joint venture expanded cancer control programs and services to European installations. Volunteer-led, service-specific organizations deliver services and recruit, train, and maintain volunteers. The primary focus has been tobacco control programs. Periodic evaluations identify problems, successes, and ongoing needs. The demonstrated benefits to the community include the availability of resources for public and professional education, nutrition education, and youth programs. Over the next 2 years, plans are to expand this program to Pacific installations.

The 1992 Worldwide Survey of Military Personnel of Substance Abuse and Health Behaviors Among Military Personnel. This survey provided comprehensive and detailed estimates of the prevalence of the use of drugs, alcohol, and

tobacco among active duty military personnel. The study also examined the prevalence of health behaviors, knowledge and belief about AIDS, medical costs associated with heavy alcohol use and heavy smoking, and the effects of Operations Desert Shield and Desert Storm on substance use. These findings indicated that the military has made steady and notable progress in combating smoking and in reducing drug and alcohol-related problems. The findings also suggest that military personnel were highly motivated to make changes in behavior that were designed to improve their health.

Department of Education (DoE)

The largest Federal prevention program of the Department of Education is the Drug-Free Schools and Communities Act (DFSCA). DFSCA supports school- and community-based alcohol, tobacco, and other drug prevention programs. Education is actively involved in disseminating information on implementing and evaluating prevention programs, identifying and disseminating information on successful prevention programs, and administering a variety of formula and discretionary grant programs. Grant recipients include State and local educational agencies, other State and local agencies, institutions of higher education, and community organizations. Other health promotion initiatives include spinal cord injury prevention programs, services to infants and toddlers with disabilities, dropout prevention programs, and comprehensive school health education programs.

DoE Prevention Highlights

Publications. The Department of Education has disseminated several resources for school personnel and parents on preventing alcohol and other drug use by school-age children and youth, including:

Learning To Live Drug Free: A Curriculum Model for Prevention is a classroom-based drug prevention curriculum model based on the premise that most young people do not use drugs. Its primary purpose is to enhance the development of life skills that keep children and youth from using alcohol and other drugs. The model provides the basic materials for starting or expanding a school-based drug education program for kindergarten through grade 12. These materials include information about alcohol, tobacco, and other drugs; information for teachers on child growth and development; sample lesson plans and activities; and suggestions for involving parents and the community in drug prevention. The curriculum model has been distributed to every school district in the Nation, as well as to many private schools and to schools operated by and for the Bureau of Indian Affairs.

Growing Up Drug Free: A Parent's Guide to Prevention was developed to help families take an active role in drug prevention. Drawing on the advice of experts in drug prevention and in child development, the handbook outlines what children at four key stages of development should know about drugs and suggests family activities to reinforce children's motivation not to use alcohol and other drugs. Nearly 23 million copies of the handbook, including a Spanish-language edition, have been requested.

Schools Without Drugs provides assistance to schools and communities in developing a comprehensive program to prevent drug use. Based on the best available research, it emphasizes a plan for partnership among parents, students, communities, and schools to reduce and prevent illegal drug use. Originally published in 1986, the handbook has been revised twice to include current information on alcohol, tobacco, and steroids. Over 4 million copies, including a Spanish language edition, have been distributed.

Success Stories From Drug-Free Schools: A Guide for Educators, Parents and Policymakers provides practical information on designing and implementing effective prevention programs. Real-life examples that worked to reduce drug use and violence are included from schools honored in the Drug-Free Schools Recognition Program (see below).

The Challenge is a quarterly newsletter containing lesson plans for classroom use, information on alcohol, tobacco, and other drugs, current research on prevention, promising prevention techniques, and sources of further information for teachers.

In addition, DoE is collaborating with DHHS on a project to develop training materials for preschool and elementary school teachers and other school personnel who work with drug-exposed children in educational settings. Materials became available in 1993.

Drug Prevention Programs for America's Schools and Colleges. The Drug-Free School Recognition Program honors schools that prevent or substantially reduce student alcohol, tobacco, and other drug use. These schools exemplify the level of community and school commitment required to make the Nation's schools drug-free. In school year 1991–92, the fifth year of the program, 79 public and private schools were selected for recognition of their achievements.

More than 1,300 colleges and universities participate in the Network of Colleges and Universities Committed To Eliminating Alcohol and Drug Abuse. Initial networking efforts focused on 4-year residential colleges so that information on comparable problems could be shared; however, the focus has expanded to address the concerns of the 2-year student and the commuter population.

Drug Prevention Grant Programs. The DFSCA State and Local Grants Program allocates funds to State education agencies (SEAs) and governors' offices for alcohol and other drug use prevention, early intervention, and rehabilitation referral programs; parent and community involvement activities; and services for youth at high risk for alcohol and other drug use.

The DFSCA Regional Centers Program supports five centers that provide training and technical assistance to State and

local education agencies and institutions of higher education. Activities include school-team training, technical assistance for strengthening programs through coordination of services, developing training programs in prevention for education personnel, and evaluating and disseminating information on effective prevention programs and strategies.

The Federal Activities Grants Program supports the development and implementation, dissemination, and evaluation of educational strategies and programs for drug and alcohol use education and prevention. The program priority in FY 1992 and FY 1993 continued to be preventing alcohol use by K-12 students, particularly high-risk youth.

DFSCA Emergency Grants were awarded in FY 1992 to 83 school districts that demonstrated a significant need for additional assistance in preventing and reducing alcohol and other drug use and abuse in their schools and communities. Districts compete for funding to support a comprehensive range of services, including educational programs, after-school programs, programs for parents and other community outreach efforts, and alternative programs for students with a history of drug abuse or others who are difficult to reach in the regular school setting.

The School Personnel Training Grants Program provides assistance to States, school districts, and institutions of higher education for training elementary and secondary school teachers, administrators, and other school personnel in drug and alcohol abuse education and prevention. In FY 1992, training for counselors, social workers, psychologists, and nurses serving school-aged children and youth was also provided through a program set-aside.

Demonstration Grants to Institutions of Higher Education support the development of elementary and secondary school prevention programs. In FY 1992, program priorities were to demonstrate the effectiveness of drug and alcohol prevention strategies and to involve faculty of institutions of higher learning, elementary and secondary teachers, and community representatives in the practical application of research findings in drug and alcohol abuse education and prevention.

Innovative Alcohol Abuse Education Programs are designed to benefit children in grades 5 through 8 and to focus on the effects of familial alcoholism on children of alcoholics. Training materials were developed in FY 1991. Training for middle school personnel on the use of these materials will be continued regionally through March 1994.

Drug Prevention Programs for Higher Education supports campus-based programs for students enrolled in colleges and universities. Administered by the Office of Postsecondary Education, this program awards grants to develop, implement, and evaluate alcohol and other drug prevention programs, and to disseminate information on successful practices and strategies in post-secondary settings.

Program Evaluation Activities. The Office of Policy and Planning, in conjunction with the Office of Elementary and Secondary Education, conducts evaluation studies of DFSCA prevention programs. Currently, Education is involved in the 2nd year of data collection in a longitudinal study of student outcomes of school based drug prevention programs; findings will be available in late 1995. An assessment of training and technical assistance services provided by the Regional Centers and a survey of institutions of higher education alcohol and other drug prevention programs and policies are also being conducted. Education has also been working to identify successful and/or innovative prevention practices and strategies in schools and communities across the Nation.

National Institute on Disability and Rehabilitation Research (NIDRR). NIDRR supports research on the nature of disabilities and the interventions that can prevent disabilities and improve rehabilitation outcomes. NIDRR supports 13 Model Spinal Cord Injury Systems and 4 Model Brain Injury Systems that include education programs directed at high school youth, as well as younger children. NIDRR supports projects to develop curricula and training materials for spinal cord injury prevention. NIDRR also supports a university-based Research and Training Center on Childhood Trauma that utilizes a national pediatric trauma data base and registry and focuses on the prevention of childhood trauma through accidents and intentional injuries. In one of several interagency efforts, NIDRR cooperated with the National Commission to Prevent Infant Mortality, whose goal was to bring together health and educational organizations and agencies to prepare a joint strategic plan to enhance the full learning potential of all children.

Office of Special Education Programs (OSEP). OSEP administers Part H of the Individuals with Disabilities Education Act, which authorizes the Grants for Infants and Families Program. This program provides support to States to plan, develop, and implement a comprehensive multidisciplinary statewide system of early intervention services for children (age 0–2) with disabilities and their families. Eligible children are those infants and toddlers experiencing developmental delays (as diagnosed in the following areas: cognitive development, physical development, language and speech development, psychosocial development) or who have a diagnosed physical or mental condition that has a high probability of resulting in developmental delay. Once fully implemented, this program should significantly improve access to early intervention services, increase the scope and quality of the services available, and improve the cost-effectiveness of providing services to infants and toddlers with disabilities. All participating States provided full services in FY 1993.

Five-year grants for two early childhood research institutes were awarded in FY 1991. The Early Childhood Research Institute on Substance Abuse conducts longitudinal studies on children prenatally exposed to alcohol and other drugs. The Institute also develops, tests, and disseminates collaborative interventions for very young children who are at risk for developmental delays, or are developmentally delayed or disabled. The National Early Childhood Technical Assistance System trains early intervention personnel and disseminates information on service delivery models and best practices.

The School Dropout Demonstration Assistance Program. This program has been funded since 1988 for the purpose of increasing the number of students who complete elementary and secondary education. Research strongly suggests the need for a comprehensive approach to dropout prevention reentry that not only addresses the problems and needs of students who are at risk or have already dropped out of school, but includes the restructuring and reform of the operation of elementary and middle schools, as well as the high schools. Findings from a national evaluation of projects funded in FY 1988

will become available in 1993. An evaluation of projects funded in FY 1991 is in progress.

The Comprehensive School Health Education Program. This program is supported by the Fund for Innovation in Education and provides grants to States, school districts, institutions of higher education, and other public and private entities to improve health education for elementary and secondary students. The program currently supports innovative projects of national significance. Recent program priorities include demonstrating and evaluating promising approaches to comprehensive school health education, providing the training needed to implement such programs, and disseminating information about effective programs to States and communities.

Department of Energy (DOE)

With approximately 200,000 Federal and private contractor employees engaged in the development and use of nuclear energy and other energy sources and in the cleanup of the U.S. weapons facilities, health protection has become a primary concern for DOE. A milestone in DOE's emphasis on worker health protection came in 1990 when DOE established an Office of Health. This Office is the DOE focal point for employee health protection. It is responsible for identifying the potential harmful effects of DOE activities on human health and for promulgating and initiating programs and policies that will effectively prevent or mitigate these effects.

DOE Prevention Highlights

Environmental Health. Active cleanup of DOE sites has started recently. DOE's Office of Environmental Restoration and Waste Management, the operational program responsible for cleanup activities, estimates that the cleanup of 40 years of nuclear weapons manufacture will take over 30 years and cost over $100 billion. Approximately $1.4 billion was spent on cleanup actions in FY 1992. A recent report from the United States Congress, Office of Technology Assessment, entitled "Hazards Ahead: Managing Cleanup Worker Health and Safety at the Nuclear Weapons Complex," discussed the uncertainties associated with characterizing the contamination of many of the DOE weapons sites and the difficulties of designing appropriate worker health and safety programs. In partial response to this report, the DOE Office of Health is developing enhanced medical guidelines for the surveillance of hazardous waste workers. The cleanup activities are closely coordinated with DHHS agencies, such as the Agency for Toxic Substances and Disease Registry, and with other national and international organizations.

Cancer. DOE funds a number of research programs for developing a better understanding of the etiology of cancer. Perhaps the most significant program is the Human Genome Program. In FY 1992, DOE spent approximately $130 million on genome and other mechanistic biological research. DOE also supports a number of major foreign research programs aimed at developing a better understanding of the effects of radiation. The most significant DOE-supported foreign research activity is the Radiation Effects Research Foundation (RERF) in Japan, which is jointly supported by the U.S. and Japanese Governments. RERF studies the effects of the atomic bomb blasts in Hiroshima and Nagasaki, and RERF data have been used worldwide as a reference for setting baseline radiation protection standards. Other significant foreign radiation research projects include the Marshall Islands program, the Palamores program in Spain, and Health and Environmental programs in the former Soviet Union. The studies in the former Soviet Union are done in cooperation with other Federal agencies.

Occupational Safety and Health. DOE launched a new enhanced occupational health program in 1992 with the issuance of DOE Order 5480.8A. This order requires 42 DOE contractor sites to provide their employees with expanded health examinations and tests to detect occupational illness or injury and to prevent disease or injury. The objectives of the DOE occupational medical program are to assist contractor management in protecting employees from health hazards in their work environment; assure the early detection, treatment, and rehabilitation of employees who are ill, injured, or otherwise impaired; and use preventive measures toward the maintenance of the optimal physical and mental health of employees through health promotion and education. Numerous initiatives have been started to increase individual employee's awareness about health issues.

Surveillance and Data Systems. A major goal of DOE is to develop the capability to track the health status of its entire workforce. The need for employee monitoring gained congressional support in 1992 with the passage of the National Defense Authorization Act for FY 1993. This act mandates that DOE establish a medical monitoring and testing system for its employees who have had significant exposure to hazards. DOE anticipated the requirements of the act by initiating in FY 1992 the development of a large medical surveillance computer network that will include radiological and industrial hygiene exposure information, demographic data, and clinical information. The system is being designed to allow DOE to take a proactive preventive approach to employee health protection. In 1993 DOE defined the minimum medical data set for the system as well as the requirements for the hardware and software. In 1994 the system will be implemented at four pilot sites. The medical surveillance requirements are being developed by the DOE Office of Health with input from the Department of Health and Human Services, the Department of Labor, the National Academy of Sciences, and other organizations.

Educational and Community Based Programs. DOE supports a number of initiatives aimed at making the public more aware of the effects of energy use and development. For example, DOE has initiated the National Science Bowl to promote science education nationwide for high school students. DOE provides fellowships for graduate students in industrial hygiene and health physics. DOE also supports a number of community or state-level activities to promote a better understanding of the potential health impacts of specific DOE oper-

ations in given States. In 1993 DOE will sponsor health agreements with seven States. In addition, each year DOE sponsors a large number of health-related conferences or symposia, media presentations, and scientific studies resulting in peer-reviewed publications.

Department of Housing and Urban Development (HUD)

The provision of decent, safe, and sanitary housing implies a commitment to the health and safety of all program recipients. Implicit in the Department of Housing and Urban Development's programs is the goal of preventing illness and injury among program recipients.

HUD PREVENTION HIGHLIGHTS

Lead-Based Paint Hazards Removal. Pursuant to several statutory mandates, HUD is making a major effort to reduce and eventually eliminate lead-based paint hazards from all public and Indian housing. All such housing must be inspected for the presence of lead-based paint by December 1994; any lead-based paint must be abated when the housing is renovated. To reduce lead hazards prior to renovation, HUD strongly encourages housing authorities to conduct risk assessments and carry out interim controls. Over $100 million is being spent annually on inspection, abatement, risk assessment, and interim controls in public and Indian housing.

Public and Indian housing, however, comprise only about 1 percent of the total family housing stock in the United States that was built before the 1978 ban on lead-based paint. Pursuant to Title X of the Housing and Community Development Act of 1992 and the 1992 and the 1993 Appropriations Acts, HUD is administering a program of grants to States and localities for lead-based paint hazard reduction in private housing. Approximately $47.7 million in FY 1992 and $90 million in FY 1993 were competitively awarded.

HUD is rewriting the Interim Guidelines for Hazard Identification and Abatement to apply to all federally supported hazard reduction work. These guidelines recommend technical protocols, practices, and procedures on testing, abatement, worker protection, cleanup and disposal of lead-based paint in residential structures. HUD is also changing its regulations pertaining to lead-based paint hazard reduction in federally assisted housing and federally owned housing, and HUD has revised the lead-based paint notification to purchasers and residents of all HUD associated housing. HUD coordinates with the EPA, CDC, and other agencies through the Interagency Lead-Based Paint Task Force. Several agencies are supporting the Lead Hotline, 1-800-LEAD FYI, which provides public information and serves as a national clearinghouse.

Radon Contamination in Housing. The 1988 McKinney Homeless Assistance Amendments Act added radon to the potential environmental health hazards requiring action by HUD. This act called for a policy report dealing with radon contamination in HUD-owned and subsidized housing, primarily multifamily rental housing for low and moderate income people. The report was delivered to HUD in the spring of 1991. HUD has also cooperated with radon testing programs conducted by the Indian Health Service over the past several years in some of its Indian housing stock. Beginning in 1990, several Indian housing authorities requested and received funds for radon testing and mitigation. HUD has entered into an interagency agreement with EPA to test and mitigate radon in HUD-owned multifamily buildings in high radon areas.

Housing and Community Development Assistance Programs. Federal manufactured home construction and safety standards administered by HUD emphasize several health issues. Proposed amendments to these standards relative to indoor air quality address problems associated with formaldehyde emissions and call for improvements in ventilation. Health notices on formaldehyde emissions are required to be placed on a temporary basis in the kitchen of each manufactured home. The notice can only be removed after the sale is final. Minimum property standards for housing include design considerations for builders, developers, and public officials to reduce potential risk to public health from both manmade and natural hazards and irritations such as toxic dumps, power lines, and unscreened drainage canals. These standards also apply to nursing homes and group care facilities insured by HUD and the siting of housing and other facilities using Community Development Block Grant funds. All States and local governments that are recipients of Community Development Block Grant funds are required to conduct an environmental assessment taking into account potential health and safety hazards.

Drug Elimination Program. HUD has established an Office for Drug-Free Neighborhoods to promote a safer and healthier living environment through the elimination of drugs from public housing developments. The Office works with public housing officials and residents to leverage resources and develop creative solutions to solve the drug problem. The Office encourages housing authorities to develop housing management, enforcement, and prevention strategies as part of a comprehensive effort to decrease and eventually eliminate the drug problem in public housing. The Public Housing Drug Elimination Grant Program provides funds to public housing authorities to help them develop strategies to fight drugs in their area. The Office also offers a technical assistance program providing short-term consultation to help troubled housing authorities better address the drug problem within their communities. One-on-one assistance and technical resource materials are offered through the Office's Drug Information and Strategy Clearinghouse.

Child Care. HUD's program of child care assistance promotes the goal of early intervention for low-income children entering school. HUD has supported several innovative child care programs in public and Indian housing and helped fund expansion of DHHS's Head Start Bureau's programs. These efforts provide full day wraparound child care for children who may be younger or older than the 3- to 5-year-olds served by traditional Head Start programs.

Assistance for the Homeless. Under HUD's Stewart B. McKinney Act Program, States, local governments, and nonprofit organizations receive funds to assist them in providing housing and supportive services for homeless persons. Included among the supportive services are those that maintain health, such as food, nutrition, counseling, referrals for health care, and alcohol and substance abuse counseling. HUD also works closely with DHHS on programs for the homeless mentally ill population.

Public Housing Health Services. HUD and DHHS have several programs to provide primary health care to residents of public housing. One collaboration provides grants for a variety of health, education, and health counseling services for adults and children. HUD works with DHHS to assure that the Healthy Start program meets its goal of reducing infant mortality by 50 percent over 5 years, and also works with other agencies to improve access to immunization services for children.

Department of the Interior (DOI)

As the Nation's principle resource and land conservation agency, DOI guides the efforts of nine bureaus or services, including the National Park Service (NPS), Fish and Wildlife Service (FWS), Bureau of Mines (BOM), Bureau of Reclamation (BOR), U.S. Geological Survey (USGS), Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA), Minerals Management Service (MMS), and Office of Surface Mining and Enforcement (OSM). Within DOI, initiatives to enhance employee and visitor safety and health have been developed.

DOI Prevention Highlights

Radon Evaluation and Mitigation. DOI organized a major radon evaluation and mitigation effort from 1989 to 1992. A publication on radon measurement and mitigation was released. In 1993 and 1994, program data are being analyzed and updated and many of the mitigation efforts are being evaluated for effectiveness, including an innovative mitigation program for reduction of radon in fish hatcheries.

Visitor and Boating Safety. Programs for the reduction of visitor injuries in or on DOI facilities and Federal lands have developed. Visitor safety training and accident investigation initiatives were consolidated into a department-wide effort. A boating safety policy was published in 1992 that addresses employee-safety programs for the DOI work force involved in duty-related boating activities and visitor safety. A major instructor training effort is underway in 1993 and 1994. It is expected to train over 60 boating safety instructors who will in turn provide education programs to thousands of DOI facility employees and visitors.

Employee Medical Health and Assistance Programs. During 1992, DOI improved Occupational Health and Employee Assistance Medical Programs by establishing Interior Medical Health Units in Albuquerque and Santa Fe, New Mexico; Denver, Colorado; Pittsburgh, Pennsylvania; and Washington, DC. Following a period of evaluation on the cost of medical treatment, medical surveillance, and employee medical assistance for the existing medical health units, additional units are expected to be established at other field locations in 1993 and 1994.

Hazardous and Toxic Material/Waste Initiatives. A major DOI initiative is currently redefining the acquisition, use, and disposal of hazardous and toxic materials. This program is training DOI employees and supervisors to substitute less hazardous or nonhazardous material in routine work. Efforts are being made to more effectively handle and manage the waste resulting from DOI operations, and to evaluate and remediate areas contaminated by past inadequate waste handling practices.

Department of Justice (DOJ)

Office of Justice Programs (OJP)

The Office of Justice Programs in the Department of Justice (DOJ) provides funding, technical assistance, and training to State and local units of government and private nonprofit organizations for crime prevention and control, drug abuse prevention, prevention of family violence, including elder abuse, child physical and sexual abuse, and disease prevention as it relates to the criminal justice system.

OJP is comprised of five major bureaus or offices, each of which, among other things, sponsors prevention-related activities. These are the Bureau of Justice Assistance (BJA), the Bureau of Justice Statistics (BJS), the National Institute of Justice (NIJ), the Office of Juvenile Justice and Delinquency Prevention (OJJDP), and the Office for Victims of Crime (OVC).

OJP priorities include preventing and controlling violence and drug trafficking by gangs, crime and drug abuse prevention and education, community-based programs to combat crime and drug use, and assistance for crime victims, including physically and sexually abused children and elder abuse.

OJP Prevention Highlights

Comprehensive Law Enforcement and Community Revitalization Strategy. Operation Weed and Seed is a major effort of DOJ. Begun in late FY 1991, the initiative is a community-based, comprehensive, multi-agency approach to combatting violent crime, drug use and gang activity in high-crime neighborhoods. The goal is to "weed out" crime from targeted neighborhoods and then to "seed" the targeted sites with a wide range of crime and drug prevention programs and human service agency resources to prevent crime from reoccurring. FY 1993 funds continued phase II of the Weed and Seed strategy at 20 demonstration sites. Training and technical assistance and victim outreach services, developed under the discretionary grant programs were also made available to the sites. In FY 1993, many cities and communities took steps

to implement the Weed and Seed strategy with existing resources. Interagency agreements with various Federal agencies support core components of Weed and Seed, including Safe Haven Multi-Human Service Centers, Community Policing in public housing, and neighborhood and resident mobilization as well as economic revitalization activities and establishment of comprehensive recreation programs.

Preventing and Controlling Gang Violence. Information gathered from an OJP field study on gangs and gang violence has been used to design a plan of action for preventing young people from becoming involved in gang activity; for salvaging peripheral gang members; for identifying, arresting, and prosecuting hard-core gang members; and for assisting the victims of gang-related crimes and their families. BJA's Comprehensive Gang Initiative involves a national assessment of gang drug trafficking and related violent criminal activity and development of local prevention and control measures.

Under a grant from OJJDP, the Boys and Girls Clubs of America are implementing a program called Targeted Outreach with a Prevention and Intervention Component. This program currently supports gang prevention and intervention programs in 33 cities. Twenty-four additional cities began programs.

OJJDP, along with HUD in FY 1993, also funded a program to establish Boys and Girls Clubs in public housing in an effort to prevent gang violence and drug abuse. OJJDP also supports a Gang Policy Training Program, which provides intensive training to communities to assist them with the assessment of their gang problems and the development of action plans to intervene with and prevent gang violence. In addition, OJJDP funds the National Gang Clearinghouse, which serves as a resource center for gang related materials and information.

In FY 1993, NIJ sponsored an evaluation of three comprehensive gang prevention and intervention programs. A study on the acquisition and use of firearms by incarcerated juveniles and inner-city high school students, in five sites, addresses the relationship between gun ownership, violence, gang membership, and drug trafficking and abuse.

Drug Demand Reduction Activities. OJP supports the Drug Abuse Resistance Education (DARE) program, which teaches children to resist peer pressure to experiment with drug use. BJA funds five regional centers that train State and local law enforcement to be DARE instructors. In FY 1992, DARE training was expanded to include drug use prevention training for parents.

Through BJA and OJJDP, OJP is working with Columbia University's Center on Addiction and Substance Abuse, formerly of New York University, to help six cities rescue their high-risk pre-adolescents from the interrelated threats of poverty and drugs through the Strategic Intervention for High-Risk Youth Program. This multiservice, neighborhood-based program coordinates resources by program participants (e.g., schools, child welfare system, local, public and private service providers, and all components of the criminal and juvenile justice system). BJA is working with Operation PAR (Parental Awareness and Responsibility) to provide drug abuse prevention training and technical assistance to Weed and Seed project sites.

OJP supports the National Citizens' Crime Prevention Campaign of cost-effective prevention initiatives. McGruff the Crime Dog and the "Take a Bite Out of Crime" slogan leveraged in 1992 $60.3 million in donated air and space time for public service educational messages that targeted English- and Spanish-speaking populations. Other accomplishments included the free distribution of more than 425,000 crime, violence, and drug prevention publications; the training of hundreds of law enforcement representatives, other service providers, and communities; and the coordination of the 136-member Crime Prevention Coalition.

OJJDP supports several programs to prevent drug and alcohol abuse and reduce the demand for illegal drugs. The Wings of Hope program, run by the Southern Christian Leadership Conference, mobilizes inner-city communities in an effort to prevent drug and alcohol abuse and provide services to families. Through the National Center for Neighborhood Enterprise, OJJDP supports small community-based agencies that are involved in drug prevention and treatment programs. OJJDP is also working in a collaborative effort between the National Highway Traffic Safety Administration, the Department of Agriculture, and the National 4-H Club to develop the capacity of communities to plan comprehensive strategies to prevent drug abuse and to treat drug abusers. In addition, OJJDP and several Federal partners (Departments of Labor, Health and Human Services, and Commerce) support a national dropout prevention effort developed and implemented by Cities in Schools.

In 1993, NIJ completed an evaluation of BJA's national demonstration program on community responses to preventing drug abuse. This evaluation studied grassroots programs in six sites and examined the effectiveness of various community group approaches to preventing drug trafficking and abuse in their neighborhoods.

Edward Byrne Memorial State and Local Law Enforcement Assistance Grants. BJA's formula grant program provides each State and Territory with funds for drug control and criminal justice system improvement programs. States may use BJA formula grant funds for drug demand reduction education programs; community and neighborhood programs to reduce crimes against the elderly; crime prevention in rural areas; programs to identify and treat adult and juvenile drug and alcohol-dependent offenders; and programs to improve the criminal and juvenile justice system's response to domestic violence.

BJA also administers a discretionary grant program, which provides assistance to public, private, and private nonprofit organizations for training, technical assistance, demonstration programs, and national scope programs related to drug enforcement and criminal justice system improvement.

National Crime Victimization Survey. BJS's National Crime Victimization Survey samples 50,000 households, comprising more than 100,000 persons, who are interviewed about their experience as victims of crime. A new questionnaire has been implemented by BJS to improve the respondent's ability to recall crimes, especially in cases of family violence and rape.

Research on Crime and Its Control. NIJ is the primary Federal sponsor of research on crime, crime prevention and control, criminal behavior, and criminal justice technology. Current research and evaluations include studies of violence and drug use, use of community policing, and innovations in corrections.

Juvenile Justice and Delinquency Prevention Grants. Through its discretionary grant program, OJJDP encourages State and local governments, private organizations, and individuals to develop programs to prevent and control crimes by gangs, provide alternative education programs for troubled students, prevent school dropouts, develop community-wide strategies to prevent drug abuse, and prevent hate crimes. OJJDP also provides formula grants to States to prevent delinquency and improve their juvenile justice systems.

Missing and Exploited Children. OJJDP is responsible for coordinating the Federal response to the problem of missing and exploited children. OJJDP's landmark report, "Missing, Abducted, Runaway, and Thrownaway Children in America," produced the first scientifically derived estimates of a wide range of problems affecting children perceived as missing. In addition, OJJDP supports the National Center for Missing and Exploited Children, which helps locate and recover missing children, and provides technical assistance to law enforcement, nonprofit organizations, and individuals regarding missing children and child sexual exploitation. OJJDP also supports the National Court-Appointed Special Advocates Association, which provides training and technical assistance to State and local programs that recruit volunteers to advocate the best interests of abused and neglected children during judicial proceedings.

OVC supports the National Center for the Prosecution of Child Abuse, which assists State and local prosecutors handling child abuse cases. OVC also administers the Children's Justice Act Grant Program for Native Americans, which helps federally recognized Indian tribes to improve the investigation, prosecution, and handling of child abuse cases in a way that lessens trauma to the child victims.

Assistance to Crime Victims. OVC provides funding to the States to support victim compensation and assistance programs and works to improve the Nation's response to victims of crime and their families. OVC supports programs to train State and local law enforcement officials how to better respond to domestic violence calls for assistance and how to improve their sensitivity in dealing with the victims of family violence. OVC also provides training and technical assistance to corrections and probation officials to notify victims of the release status of offenders, thereby offering crime victims information that could prevent a second victimization at the hands of the same offender. OJJDP supports a project designed to reduce victimization of teenagers. Teens in Action provides training and other assistance to encourage young people to become involved in crime and drug abuse prevention activities in their schools. Recently, the program was expanded to include prevention programs for Native American teens, teens in rural areas, and those in juvenile institutions.

Disease Prevention: Corrections. NIJ, in collaboration with CDC, has surveyed the Federal Bureau of Prisons, the 50 State correctional systems, and 33 of the largest city and county jail systems in the United States on the impact of AIDS and tuberculosis on corrections. Also ongoing is a 3-year research demonstration and evaluation project, in collaboration with the National Institute on Drug Abuse, to design, test, and evaluate the effectiveness of various HIV/AIDS education strategies on arrestees held less than 48 hours in jail booking facilities and lockups. Data collected in the AIDS Education in Lockups and Booking Facilities Project will provide information on how to get arrestees into treatment and how to change health-related attitudes and behaviors.

NIJ has recently launched a three-way Federal partnership with CDC and the Center for Substance Abuse Treatment (CSAT) at the Substance Abuse and Mental Health Services Administration to provide training and technical assistance for managing the treatment of offenders with substance abuse problems and infectious diseases in corrections. Also underway is a study on the impact of infectious diseases on community corrections with a focus on the nexus between community corrections and public health in providing services for releasees with HIV or TB infections.

Information Dissemination. The National Criminal Justice Reference Service (NCJRS) disseminates findings from OJP-supported programs and research. Public access to the more than 110,000 information entries in the NCJRS electronic data base can be utilized with the assistance of trained reference specialists via toll-free phone lines. Registered users receive publications issued by OJP agencies, including *NIJ Journal* and the bimonthly *NIJ Catalog* to keep them abreast of new research, programs, and publications regarding crime, crime victims, and the criminal and juvenile justice systems.

NCJRS also operates the BJA Clearinghouse, the Justice Statistics Clearinghouse, the Juvenile Justice Resource Center, the National Victims Resource Center, the AIDS Clearinghouse, and the Corrections Construction Information Exchange. All the NCJRS clearinghouses can be reached toll-free on 1-800-851-3420, or in the Washington, DC, metropolitan area on 301-251-5500. Additionally, BJS sponsors the Drugs and Crime Data Center and Clearinghouse, which can be reached toll-free on 1-800-666-3332.

Department of Labor (DOL)

The Department of Labor conducts a number of preventive and rehabilitative health programs. The Mine Safety and Health Administration (MSHA) and the Occupational Safety and Health Administration (OSHA) develop health and safety standards to protect workers exposed to work-related hazards and take necessary enforcement steps to ensure compliance. They also provide information to employers and employees to enable them to be properly trained and to take appropriate precautions with regard to workplace hazards. These standards deal with a wide variety of hazards such as lead and other chemical exposures.

The Employment Standards Administration programs include the issuance and enforcement of hazardous occupations orders for child labor, workers' compensation efforts to pinpoint the major causes of disabilities (such as lower back problems) and the rehabilitation and re-employment of injured workers, and assisting disabled people gain reasonable accommodation (that ensures safety) in employment. The Employment and Training Administration provides training opportunities for thousands of potential workers (e.g., through the Job

Corps). This training increasingly includes components to aid potential workers to identify and deal with workplace hazards. The Job Corps also provides a variety of preventive health measurers to all of its participants.

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

OSHA strives to provide American workers with job environments as free as feasible from health and safety hazards. It develops safety and health standards; enforces these standards through worksite inspections with citations and penalties for violations; conducts training programs to increase the occupational safety and health competency of OSHA personnel, employers, and workers; and encourages active employer involvement in safety and health through free consultation for employers and a program for recognizing employers with especially good safety and health records. It provides grants to States to operate their own occupational safety and health enforcement programs, which must be at least as effective as the Federal program. It also helps Federal agencies provide safe and healthful conditions for their employees.

OSHA Prevention Highlights

Bloodborne Pathogens. OSHA conducts inspections to enforce its new bloodborne pathogens standard to ensure that employers provide employees with adequate protection from the hazards associated with occupational exposure to bloodborne pathogens such as HIV and hepatitis B. OSHA continued its public outreach efforts by offering training courses and reference materials such as videotapes, booklets, and fact sheets to the medical and dental communities.

Cumulative Trauma Disorders. OSHA assists employers in dealing with cumulative trauma disorders caused by repetitive motion. This includes ergonomics program management guidelines for the meatpacking industry; ergonomic training courses for Federal and State personnel and for representatives of the private sector; an Advance Notice of Proposed Rulemaking for an ergonomic safety and health management rule; and enforcement activities with the use of settlement agreements.

Enforcement Improvements. OSHA directs enforcement resources to the most dangerous industries through its inspection targeting system. A national program aimed at reducing injuries, illnesses, and fatalities associated with chemical plant explosions and fires was recently completed. OSHA enforces its chemical process safety management standard through physical inspections of plants, evaluation of documented workplans covering process hazard analysis, employee training, and emergency response procedures. Local emphasis programs focus enforcement efforts on hazardous industries in limited geographic areas such as logging in New England, cotton dust in the Southeast, and seafood harvesting in the Northwest.

OSHA also continues to emphasize the deterrent effect of substantial penalties, particularly in egregious cases, and, where possible, seeks to negotiate corporate-wide settlement agreements so that hazards will be abated not only in the inspected plant, but also in similar facilities in the corporation. These agreements have proved particularly useful in correcting ergonomics problems in meatpacking and other food-processing corporations. OSHA has recently improved its procedures for monitoring corporate-wide settlement agreements.

Standard Setting. As one way of improving the standard setting process, OSHA is using negotiated rulemaking. Negotiated rulemaking is a procedure that allows the interested parties to identify the major issues, gauge their importance, gather the information necessary to resolve the issues, and develop a rule that is acceptable to the various interests. Recently, OSHA used the procedure to promulgate its final rule for methylene-dianiline.

The agency issued final rules for confined spaces and workplace exposure to cadmium and an interim final rule for exposure to lead in the construction industry. The agency anticipates final actions on standards addressing 1,3 butadiene, respiratory protection, and glycol ethers.

Assistance Programs and Outreach. OSHA's cooperative efforts include programs for compliance assistance, employer recognition, and training.

- **Consultation.** Through OSHA support, State consultants provide free assistance to employers in the identification and correction of hazards and the development of effective workplace safety and health plans. Approximately 28,000 consultation visits are conducted annually.
- **Voluntary Protection Program.** OSHA recognizes employers that have especially good safety and health programs. An estimated 135 worksites were included in this program.
- **Training.** OSHA's Training Institute provides basic and advanced courses in job-related safety and health for more than 8,000 Federal, State, and private personnel annually. To extend the reach of the Institute, training centers at colleges and universities are under development. OSHA annually awards about $1.5 million in grants to nonprofit organizations to provide safety and health training and education to employers and employees in such areas as logging safety.

MINE SAFETY AND HEALTH ADMINISTRATION (MSHA)

MSHA helps to reduce deaths, injuries, and illnesses in mines. MSHA develops and enforces safety and health rules, helps mine operators who have special compliance problems, and makes available technical, educational, and other types of assistance. MSHA's responsibilities apply to all mining and mineral processing operations in the United States, regardless of size, number of employees, or method of extraction.

MSHA Prevention Highlights

Job Safety Analysis. With the understanding that many workplace accidents occurring in the mining industry involve poor judgment, overfamiliarity, and inadequate supervision and training, MSHA encourages the use of Job Safety Analysis, a proven accident prevention tool. Workers and supervisors jointly analyze each step of a hazardous work assignment

to determine the safest way to complete the task. The process becomes an effective training module for new workers because they learn how to do a job in the safest possible way.

Reduced Coal Dust Exposure. After issuing citations to over 500 mining companies in 1991 for tampering with samples for measuring levels of coal dust at mine sites, MSHA formed a task force to study ways of improving the dust-sampling program and preventing this type of abuse.

Roof Evaluation—Accident Prevention. Falls of mine roof or side walls have been the leading cause of fatal accidents in mining. In order to call attention to the high risk, MSHA encourages the use of safety training, temporary roof supports, and technical information to increase awareness of the hazards of unsupported roof. Mine inspectors distribute audiovisual products such as posters, bumper stickers, hardhat stickers, and tape-recorded messages that call attention to the dangers of walking under an unsupported roof.

Small Mines Initiative. To reduce the higher rate of fatalities that occur at small coal mine operations, MSHA utilizes a small mines training initiative that targets mines in four States that have historically accounted for the most mining fatalities—Kentucky, West Virginia, Pennsylvania, and Virginia. MSHA assigns training specialists whose sole responsibility is the improvement of health and safety programs at the selected mine sites.

Regulations and Standards. MSHA has recently completed two important rules to strengthen prevention efforts:

- **Ventilation.** The standards for underground coal mine ventilation, which had not been updated for over 20 years, were revised. For example, it provides for the voluntary use of atmospheric monitoring systems as an alternative to certain air measurements and tests. The rule sets mandatory standards for ventilation plans.
- **Civil Penalties.** Civil penalties were increased across the board. These changes are intended to induce greater overall mine operator compliance with MSHA's safety and health standards, thereby preventing miner injuries, illnesses, and deaths.

Department of State

OFFICE OF MEDICAL SERVICES

The Office of Medical Services (MED) in the Department of State provides a wide variety of preventive health and primary care medical services to well over 25,000 employees and family dependents within the foreign affairs community. MED provides comprehensive occupational health services for foreign affairs families by providing medical clearance examinations, treatment for work related injuries and illnesses, provision of primary care when not available locally, and referral of patients to private physicians for ongoing medical care (where available). Many primary and secondary prevention programs are integrated into existing medical services.

A comprehensive periodic medical clearance examination is required of all foreign affairs employees and family members to obtain medical benefits provided by MED. The examination includes a history and physical examination, selected laboratory studies, tuberculosis screening, oral health screening, and age-related screening examinations (such as mammography and sigmoidoscopy). The examination is customized to fit the unique health risks the foreign affairs community faces overseas, as well as risks that are related to sex or age. Following each examination, a nurse or nurse practitioner reviews each patient's examination results to reinforce health education messages provided by the examining physicians. Once the employee has an assignment to a specific post, relevant immunizations or chemoprophylaxis are provided. In addition, nurses review environmental conditions that may adversely affect the health of the employee or family at the new post.

Overseas, MED provides services depending upon the availability of health care locally. Where outside health care services are minimal, MED, or locally hired health care providers, provide direct primary care as well as a broad range of preventive health care services. Where health care locally is adequate, the focus of health care provided by MED health care providers shifts toward preventive health and health promotion activities. MED also provides a wide variety of mental health services through five major programs: alcohol and drug awareness program; employee consultation service; psychology; overseas mental health program; and mental health grant program. Many mental health services are preventive in nature, exemplified in training seminars that address cross-cultural adaptation, stress-reduction techniques, raising children abroad, self-help for depression, and alcohol awareness.

The overseas mental health program is provided through 10 psychiatrists posted abroad. In addition to providing direct patient care, the psychiatrists hold community education programs, support the mental health grant program through consultations and presentations, and are actively involved in crises intervention work.

Environmental Health and Preventive Medicine (EHPM) Program. EHPM formulates policy, as well as provides consultation services in order to reduce the adverse impact of air pollution, food contamination, water quality and treatment options, radon, asbestos, childhood lead poisoning, health effects from ionizing and non-ionizing radiation, and pesticide use. EHPM is also involved in epidemiological investigations of environmental hazards such as exposure monitoring of embassy personnel in Kuwait during the oil fires or in Mexico City following the outbreak of lead poisoning from ceramicware.

Health promotion/education programs are offered at overseas posts on AIDS, nutrition, exercise, smoking cessation, and breast cancer awareness. Although many of the health promotion/education materials are obtained from outside sources, the materials/programs for smoking cessation and blood lead screening are developed by EHPM.

Medical Information Management System (MIMS). MIMS serves MED as an administrative support and provides the basis for epidemiological investigations regarding health risks among the foreign affairs community.

The Office of Safety, Health, and Environmental Management (SHEM). SHEM conducts occupational health and

safety assessments throughout the world. Assessment of the worksite to comply with Department of State policy or OSHA regulations falls under this office's mandate. SHEM manages and conducts training in a number of safety and occupational health areas, such as defensive driving, electrical safety, proper warehousing and maintenance operations, respiratory protection, and confined space operations, to ensure that occupational and job injuries, illnesses, and hazards are reduced.

The Office of Foreign Building Operations (FBO). FBO provides oversight and technical assistance to ensure that contractors performing overseas construction activities comply with contractual requirements for occupational safety and health. Other offices within FBO are responsible for asbestos inspection and control, elevator and fire safety, and radon mitigation. FBO has ongoing programs that address all aspects of building design, construction, renovation, and maintenance in order to provide a safe working environment for Department personnel.

During fiscal years 1993 and 1994, additional preventive health attention will be placed on the development of a model fitness program, primarily for implementation by MED's overseas medical officers. The program will outline screening methodologies, fitness assessments, and fitness goal setting, accomplished with a minimum of equipment and without dedicated exercise facilities. The Department continues to reduce environmental lead exposure with the development and implementation of a lead-based paint policy, which will complement the ongoing blood lead screening program. FBO will develop a potable water control program and an underground storage tank assessment program.

Department of Transportation (DOT)

The Department of Transportation plays an important role in transportation safety and in mitigating the environmental impacts of transportation. Prevention-related activities are conducted by the Office of the Secretary of Transportation and by various DOT agencies: the Coast Guard for marine environmental protection, for the protection of the health and safety of fishermen and maritime workers, and for boating safety; the Federal Aviation Administration, for safety and security of civilian aircraft, personnel, and freight as well as noise and pollution control; the Federal Railroad Administration, for railroad standards, safety, and consumer information; the Research and Special Programs Administration, for safety in the transportation of hazardous materials and for pipeline safety, as well as for the variety of safety research and development programs supported by the Volpe National Transportation Systems Center and the Transportation Safety Institute; and the Federal Transit Administration (formerly the Urban Mass Transportation Administration), for encouraging the safe use of buses and rail transit by the elderly and people with disabilities. Roughly 95 percent of all transportation injuries and fatalities are highway-related. The National Highway Traffic Safety Administration sets safety standards for new motor vehicles, conducts public information programs, and implements other programs to reduce deaths, injuries, and economic losses from traffic accidents. The Federal Highway Administration deals with the safety of highways and of motor carriers that share the highways.

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (NHTSA)

Traffic crashes are the leading cause of death for every age group from 6 to 33 years old. Motor vehicle-related crashes are responsible for approximately 40,000 fatalities and hundreds of thousands of injuries each year. Alcohol is associated with nearly half of these crashes. The estimated annual cost to the public is $137.5 billion in property damage, lost productivity, and medical and other expenditures. Within NHTSA, the Traffic Safety Program emphasizes occupant protection, alcohol and drug countermeasures, emergency medical services, police traffic services, motorcycle safety, bicycle, and pedestrian safety programs. The modification of vehicles to make the operation of motor vehicles more forgiving of operator error (crash avoidance) and the vehicle less likely to cause injury or death if a crash does occur (crashworthiness) are the subjects of research and development and NHTSA rulemaking.

NHTSA Prevention Highlights

Occupant Protection. The regular use of occupant protection devices, including manual and automatic safety belts and air bags, can reduce by almost half the likelihood of a passenger fatal injury in a serious automobile crash. Safety belt use in the United States is on the rise, with belt use increasing from 11 percent in 1982 to 62 percent as of December 1992. This dramatic improvement in safety belt usage results primarily from a combination of public information, legislation, and enforcement of State safety belt use laws. As of May 1993, 42 States, Puerto Rico, and the District of Columbia have enacted safety belt use laws. In States with such laws, usage rates are an average of 27 percent higher than the average in States with no laws. Some communities report usage rates as high as 90 percent. An estimated 5,500 lives were saved in 1992 alone because of safety belt use. As a result of its recent success in raising national usage above 60 percent, NHTSA is continuing to promote holiday campaigns that combine intensified enforcement with public information. A similar approach has resulted in usage rates above 85 percent in Canada. NHTSA will continue its outreach efforts to public and private sector agencies to generate increased program activity and to expand communication channels. Increasing emphasis will be placed on developing program strategies and materials for hard-to-reach audiences.

Child Passenger Safety. NHTSA coordinates a national program of technical assistance, training, and public information and education to reduce the number of injuries and fatalities to children resulting from non-use of seat belts or child safety seats in motor vehicle crashes. Assistance is provided to State and local government agencies, national organizations and their affiliates, employers, civic and volunteer organizations, and other community advocates to coordinate and increase the impact of child passenger safety programs. While

usage rates have increased in some populations, lack of use and incorrect usage are still significant problems that NHTSA is addressing. The agency also targets programs to increase the use of safety belts by all members of the family and increase the use and availability of child safety seats. All 50 States, the District of Columbia, and Puerto Rico have child passenger protection laws; however, there are gaps in coverage. NHTSA works with States and national law enforcement associations to develop public information campaigns, other programs, and support materials for increased enforcement of State child passenger safety laws. NHTSA also provides information to the public concerning recalls of child safety seats and investigates consumer complaints regarding possible defects.

Impaired Driving. Alcohol involvement in fatal crashes has dropped substantially in the past decade. The proportion of fatal crashes involving alcohol fell from 57 percent in 1982 to 46 percent in 1992. The reduction was greatest among the 15- to 20-year-old age group, a group historically at high risk for traffic crashes. NHTSA estimates that minimum drinking age laws (now at age 21 in all 50 States and the District of Columbia) saved over 13,000 lives between 1982 and 1991. Greater public awareness of impaired driving, tougher impaired driving laws, and better enforcement of these laws have also contributed to this decline. NHTSA has joined with the National Transportation Safety Board and other government, industry, and safety groups to encourage States to pass laws that administratively suspend the driver's license of individuals who fail an alcohol breath test and to lower the legal blood alcohol concentration (BAC) limit from .10 g/dl to .08 g/dl for adult drivers. NHTSA encourages States to enforce these laws using sobriety checkpoints and other enforcement methods. NHTSA is currently conducting a new enforcement demonstration to determine the optimal method for the operation of sobriety checkpoint programs. NHTSA assists States by reviewing their impaired driving programs through a week-long assessment by a group of experts drawn from other States, universities, and private organizations. Incentive grant funding is available to States with administrative license revocation and .08 BAC laws, checkpoints, and other components of an effective impaired driving program.

NHTSA continues to focus on young drivers as a high-priority element of the impaired driving problem and will encourage all States to adopt "zero tolerance" laws that make it illegal for anyone under the age of 21 to operate a motor vehicle after consuming any alcohol. NHTSA also continues to promote provisional licensing systems that gradually remove restrictions from young persons' driving privileges as they demonstrate their ability to drive responsibly. NHTSA is developing worksite programs to educate young workers in all aspects of traffic safety and to work with communities to establish comprehensive youth traffic safety prevention and education programs. An example is a project with the Washington, DC, Regional Alcohol Program to develop and implement a model community-based program to reduce underage drinking and driving.

A coalition of community, government, and private sector groups promoted the first National Drunk and Drugged Driving (3D) Prevention Month in December 1992. The coalition prepared and distributed 60,000 program planner kits with resource guides, activity suggestions, planning guides, sample editorials and proclamations, and camera-ready art to assist communities in planning and conducting their own prevention activities. The coalition also conducted a major press conference to gain national media attention.

NHTSA will continue other collaborative impaired driving efforts, including Techniques for Effective Alcohol Management (TEAM), a coalition of sports leagues, media, concessionaires, facility managers, and other organizations to reduce drinking at public facilities and sports stadiums. The agency will work with the Network of Employers for Traffic Safety (NETS), a coalition of employers, to develop and implement worksite traffic safety programs. NHTSA also will continue its close collaboration with public health and medical professionals to ensure effective planning and implementation of traffic safety programs and will encourage State and local jurisdictions to establish self-sufficient mechanisms for funding programs.

Pedestrian Safety. In 1991, approximately 14 percent of all traffic fatalities were pedestrian deaths. Another 86,000 pedestrians were injured. Children between the ages of 5 and 15 constitute 11 percent of all fatally injured pedestrians; adults over the age of 70 comprise another 18 percent. While children between the ages of 5 and 15 are commonly targeted by traffic safety and public health organizations in prevention efforts, programs directed at older pedestrians are just beginning to be developed. Alcohol is a major factor in pedestrian crashes, as nearly 40 percent of pedestrian fatalities involved alcohol.

The three essential components of pedestrian safety programs are public information and education, law enforcement, and traffic engineering design and improvements. NHTSA and the Federal Highway Administration have joined forces with the National Safety Council to develop a comprehensive pedestrian package for State and local traffic safety agencies called Walk Alert.

Bicycle Safety. In 1991, 841 bicyclists were killed and another 66,000 were injured in traffic crashes. Approximately 17 percent of these bicyclist fatalities involved alcohol. Although children under 15 years of age represented 37 percent of all bicyclists killed or injured, the number of adult bicyclists involved in traffic crashes has increased.

Comprehensive bicycle safety programs include public information, bicycle rider training, and bicycle helmet campaigns. The use of bicycle helmets is the most effective strategy to reduce bicyclist injuries and fatalities. Studies have shown that using bicycle helmets can reduce head injuries by up to 85 percent. State and local bicycle helmet laws have been enacted, typically requiring children under a certain age to wear a helmet while riding a bicycle.

Motorcycle Safety. In 1991, 2,808 motorcyclists died in traffic crashes. Head injury is the leading cause of death in motorcycle crashes, but motorcycle helmets reduce the risk of head injury substantially. Compared to a crash-involved helmeted motorcyclist, an unhelmeted rider is 40 percent more likely to incur a fatal head injury and 15 percent more likely to incur a serious head injury.

NHTSA supports public information and education, legislation, regulation, and enforcement programs to increase motorcycle helmet usage and works with national, State, and local organizations to promote motorcycle safety and helmet use. In 1993, 25 States, the District of Columbia, and Puerto Rico require all operators and passengers to wear helmets; 22 States require helmet use for some riders (usually riders under 18

years of age); and 3 States have no helmet use requirements. Over 90 percent of motorcyclists use helmets in States with laws covering all riders. Just 34 to 54 percent of motorcyclists in the remaining States use helmets. From 1984 through 1991, motorcycle helmets saved the lives of more than 5,200 motorcyclists. An additional 5,600 lives would have been saved if all motorcyclists had worn helmets.

Motorcycle operators involved in fatal crashes frequently are impaired by alcohol—more frequently than passenger car drivers. In addition, over 40 percent of motorcycle operators involved in fatal crashes are not properly licensed to operate motorcycles. In 1992, NHTSA released a law enforcement training program designed to assist in detecting impaired riders. In 1993, NHTSA began a national campaign to increase the number of properly licensed motorcyclists.

Trauma Prevention. The public is a vital part of the Emergency Medical Services (EMS) system, activating the EMS system and providing effective bystander care. EMS providers must therefore educate and inform the public and improve the public's understanding of EMS. NHTSA is developing a Public Information, Education, and Relations manual for EMS providers through a grant with the Metropolitan Dade County (Florida) Office of Trauma Services. The U.S. Fire Administration is also participating in this project.

National Standard Curriculum for Bystander Care program, which also was developed under a grant with the Metropolitan Dade County (Florida) Office of Trauma Services, describes a few actions a bystander must take that are most critical for a victim's survival from motor vehicle crashes. The intended audience includes rural communities (including Native American populations), truck drivers, and young children. NHTSA anticipates that several different and innovative delivery methods for bystander care training will be demonstrated and plans to conduct a demonstration project to pilot test and evaluate the Bystander Care Program.

Older Driver Safety. In response to recent increases in fatalities and crash rates among older occupants of vehicles, NHTSA is developing procedures and screening tools to identify those drivers with declining functional capabilities who are no longer able to safely operate a vehicle. A coordinated research program with other government agencies that have expertise with older adults in the areas of crashworthiness, crash avoidance, and driver safety is being conducted. NHTSA is also developing materials to assist individuals, families, medical personnel, and State driver licensing departments to help drivers with declining functional capabilities decide when they should, or should not, drive.

Motor Vehicle Safety. The safety performance of today's motor vehicles has been enhanced by new technology. Driver and passenger-side air bags are standard in many new cars in response to Federal requirements. Anti-lock brakes are being offered in response to market demand. Both NHTSA and the automotive industry continually search for new designs and technologies to address problems in automotive safety and to make the operation of motor vehicles more forgiving of operator error. The crash safety of new passenger cars and light trucks of the 1990s will be improved by Federal requirements promulgated for frontal and side impact protection. NHTSA is also preparing rulemakings in vehicle rollover, head injury protection, and heavy truck anti-lock brakes.

FEDERAL HIGHWAY ADMINISTRATION (FHWA)

Office of Highway Safety

As the Nation's highways have become more complex and sophisticated, the role of the FHWA's Office of Highway Safety has expanded from one of encouraging States to implement safety improvements on the Federal-aid highway systems to one of providing leadership and funding for a wide range of safety programs. In addition to the emphasis placed on safety during construction and reconstruction of the Interstate and other Federal-aid highways, other programs emphasize roadway, roadside, and operational improvements to reduce the number and severity of traffic crashes. Included among these improvements are wider lanes and shoulders, extension of culverts, removal of roadside hazards, and the use of standard pavement markings, signs, and traffic signals.

Office of Highway Safety Prevention Highlights

Highway Safety Improvement Program. Since the start of the Rail-Highway Crossings Program in FY 1974, nearly $2.5 billion has been obligated by the States for more than 26,700 projects to install signs, markings, flashing light signals, automatic gates, and crossing surface improvements. Evaluations of improvements made under this program show that between 1974 and 1991, 6,800 fatalities and 28,500 nonfatal injuries were prevented. Under the Hazard Elimination Program, almost $4 billion has been obligated since 1974 for 31,000 projects, which have prevented over 20,500 fatalities and 565,000 nonfatal injuries. Approximately $400 million per year has been authorized by the Intermodal Surface Transportation Efficiency Act of 1991 to carry out these programs in FY 1992–1997.

Section 402 Highway-Related Safety Grants. Administered in the States by the Governors' Highway Safety Representatives, the Section 402 highway safety program supports safety construction and traffic improvements. Activities include improved safety data collection and programming systems, special problem studies and analyses, training and technical guides, and purchasing equipment to improve safety problem identification and countermeasure selection.

Work Zone Safety. Work zone safety continues to grow in importance as more and more streets and highways are maintained and constructed in areas with traffic. Fatalities in work zones increased from about 500 in 1982 to more than 680 in 1991, with over 30 percent occurring on freeways. Special programs are underway to provide training for contractors and State and local highway personnel on planning and scheduling work zone traffic operations and the design and operation of work zone traffic control.

Operation Lifesaver. Operation Lifesaver, with its emphasis on educating the public about hazards at highway-railroad

crossings, complements the engineering improvements that have been made under the FHWA Rail-Highway Crossings Program. This national public information and education program on the hazards at highway-rail crossings was funded at $300,000 annually for 6 years (FY 1992–1997).

Hazardous Materials Routing. The Hazardous Materials Transportation Uniform Safety Act of 1990 requires States to comply with Federal safety standards of routing hazardous materials. On August 31, 1992, the FHWA published in the *Federal Register* a Notice of Proposed Rulemaking and a Notice of Public Hearing for routing of placarded non-radioactive hazardous materials in preparation for issuing the Final Rule in mid-1993.

RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION (RSPA)

RSPA's overall program is geared toward increasing the public's awareness of the risks involved in transporting hazardous materials, and promoting compliance with the regulations. RSPA's two major goals are the prevention of hazardous materials accidents and the reduction of the consequences that occur from them. RSPA provides documents on an electronic bulletin board called the Hazardous Materials Information Exchange or HMIX. For information on access, call 1-800-PLAN-FOR. A publication list and public information are available by calling (202) 366-2301.

RSPA Prevention Highlights

Emergency Response Guidebook (ERG). The ERG addresses all hazardous materials regulated by DOT and provides suggested initial response actions in the event of a spill, explosion, or fire. The goal is to have the ERG in every emergency response vehicle nationwide. More than 5.2 million copies of the ERG have been distributed. It is updated triennially to accommodate new products and changes in technology.

In 1992, DOT increased its role in emergency response planning and training. Using registration fees collected from certain transporters and shippers of hazardous materials, RSPA is implementing a reimbursable grant program for State and local emergency response planning and training programs.

FEDERAL RAILROAD ADMINISTRATION (FRA)

In 1991, over 2,600 reportable train accidents resulted in 19 fatalities and 326 non-fatal injuries. Hazardous materials were released in 47 accidents. Over 95 percent of all rail-related fatalities in 1991 resulted from accidents at highway-rail crossings or trespassing. In 1991, there were over 5,300 crossing accidents, with 608 fatalities and over 2,000 injuries. Trespasser fatalities numbered 542.

FRA Prevention Highlights

National Inspection Plan (NIP). This plan uses accident/incident and inspection data, passenger and hazardous material traffic data, and other risk factors to provide direction to 349 Federal and 126 State inspectors who enforce regulations covering track, rolling stock, signals, operations, and the transportation of hazardous materials.

Highway–Rail Grade Crossings. In 1991, nearly 95 percent of all railroad-related fatalities resulted from crossing accidents or trespassing. To address this problem, the FRA has developed crossing safety initiatives emphasizing elimination of highway-rail crossings (25 percent by the year 2000); engineering improvements (including research on improved and innovative warning devices); enforcement of traffic laws at crossings and no trespassing laws; development of safety regulations and standards; and public education about crossing safety and trespasser prevention.

UNITED STATES COAST GUARD (COAST GUARD)

The Coast Guard's many missions extend from the North to South pole and include such varied activities as iceberg patrol in the North Atlantic, drug smuggling interdiction in the Caribbean, fishing monitoring in the Gulf of Alaska, safety patrols on the Mississippi River, responding to oil spills on any waterway, conducting search and rescue on any coast and in the Great Lakes, and teaching boating safety. The Coast Guard licenses mariners, inspects ships, administers port security, maintains buoys and other navigation aids, and performs a myriad of other tasks to protect life, property and the environment.

Coast Guard Prevention Highlights

Occupational Health Programs for Merchant Mariners. The Coast Guard published a voluntary standard for the protection of merchant mariners from occupational health problems. Promulgated as a Navigation and Vessel Inspection Circular in February 1992, the standard provides the marine industry with guidance for a comprehensive health and safety program. It outlines a method for evaluating hazards and establishing effective procedures for minimizing exposure of employees. There are provisions for exposure monitoring, training, and development of safe work procedures. Common hazards such as confined space entry, engine room asbestos, carbon monoxide, and noise are also addressed.

Benzene Exposures. The Coast Guard implemented regulations to reduce worker exposure to benzene, a large volume chemical that causes cancer (primarily leukemia) and other diseases. These rules require vessel owners to measure the benzene vapor concentration aboard ships and barges whenever there is more than 0.5 percent benzene in the liquid phase (benzene is common in gasoline and crude oil). If above the permissible exposure level, the vessel owner must develop and implement a plan to reduce exposures. The regulations also require initial, annual, and emergency medical tests. Providing comprehensive protection to workers will save 323 lives over the next 45 years.

Recreational Boating Safety. Following a generally downward trend in the number of boating fatalities from an average 1,500 per year in the early 1970s to 1,200 in the early 1980s, boating fatalities decreased each year from 1,116 (6.7 fatalities per 100,000 boats) in 1985 to 865 (4.4 per 100,000 boats) in

1990. This trend was reversed in 1991, when 924 boaters lost their lives (4.6 per 100,000 boats). It is estimated that at least half of the fatal boating accidents involve excessive alcohol consumption. A recent Coast Guard study showed that intoxicated boaters are nearly 11 times more likely to die in a boating accident than sober boaters. Federal law prohibits the operation of a recreational boat by those with a blood alcohol concentration of 0.10 percent or above. The Coast Guard continues to strongly encourage States to pass laws that meet or exceed this criterion, and provides alcohol enforcement training to State officers. The Federal/State partnership is enhanced by boating safety financial assistance administered by the Coast Guard.

Boater education course materials are being reviewed and revised to ensure compliance with basic Federal guidelines. Grants to public service organizations have enhanced existing boating safety public information efforts, including National Safe Boating Week. The Coast Guard Auxiliary, a 35,000-member volunteer organization, continues to teach boating safety courses, provide safety patrol support, and give safety examinations for recreational boats. The provision of additional personnel to inspect 2,500 domestic boat manufacturing facilities will ensure that more boats are being built to Federal safety standards. The Coast Guard also tests boats for compliance with the standards.

Alternative methods of collecting boat accident information are being investigated to provide more accurate and complete accident data for prevention research and analysis purposes. The toll-free "800" Boating Safety Hotline has been enhanced so that information received on potentially unsafe boats or equipment can be collected, compiled, quantified, and forwarded for immediate remedial action. The Coast Guard monitors manufacturer boat recall campaigns.

OFFICE OF THE SECRETARY OF TRANSPORTATION (OST)

The Secretary of Transportation provides leadership and coordination for all programs in DOT to prevent injury and loss of life resulting from transportation activities.

OST Prevention Highlights

Alcohol and Drugs in the Transportation Workplace. DOT has long had a concern for the deleterious effect of drugs and alcohol on both the safety of the traveling public and on the lives of transportation workers. In 1993, proposed regulations that would require extensive alcohol testing, including random testing, of more than 7 million workers in safety sensitive positions in aviation, rail, highway, transit, and pipeline transportation were developed. The rules require evaluation and possible treatment for any worker found with a breath alcohol concentration of 0.04 percent and, as a safety precaution, would temporarily remove from duty those with a lower breath alcohol concentration down to 0.02 percent. The rules would also strengthen the ongoing drug testing program and provide for better data collection to evaluate the effectiveness of the program.

Smoke-Free Transportation. OST carried out a study in which the air quality was measured onboard 92 randomly selected commercial flights where smoking was limited to certain sections of the cabin. Because all pressurized airliners recirculate cabin air, the study showed potentially harmful levels of smoke contaminants in the air of non-smoking sections. The findings of this study were instrumental in the enactment of a statute to ban smoking on almost all domestic flights. An OST proposal to seek a ban on smoking on international flights resulted in the United States being a sponsor of a resolution adopted by the International Civil Aviation Organization calling for the phase out of smoking on all international flights by July 1, 1996.

Earthquake Protection. To protect the safety of occupants of transportation-related structures, OST has proposed setting standards for seismic reinforcement of all new buildings built by or for DOT. The standards would be keyed to expected earthquake likelihood and severity in different areas of the country, and would reduce the chance of building collapse with subsequent injuries and loss of life should an earthquake occur.

Commercial Space Transportation. The Office of Commercial Space Transportation has the responsibility for the licensing of private commercial firms for the use of expendable rockets in the launching of space vehicles. A critical part of the licensing procedure is the determination that the applicant has a satisfactory safety plan to ensure that the proposed launches will not endanger persons in the launch area or the recovery area, if the vehicle is to be recovered.

Department of the Treasury (TREASURY)

Certain regulatory and law enforcement agencies of the Department of the Treasury provide health-related prevention activities to the public. As an example, the Bureau of Alcohol, Tobacco, and Firearms (ATF) regulates the alcohol, tobacco, legal firearms, and explosive industries. DHHS works with ATF on the labeling of ingredients and substances that may pose a public health problem.

TREASURY PREVENTION HIGHLIGHTS

Consumer Actions. ATF continues to test alcoholic beverages to determine levels of Ethyl Carbamate (EC) in various types of beverages. EC has been found to naturally occur during the production of certain alcoholic beverages. Chemical compounds in alcoholic beverages have been identified as precursors to EC, which through production methods, react to become this carcinogen. Though FDA has taken the lead in negotiations with Congress, foreign governments, and the beverage industry regarding reducing EC levels in various products, ATF is involved in industry negotiations.

In January 1992, it was discovered that certain wines from the Veneto region in Italy had been adulterated with the pesticide Methyl Isothiocyanate (MITC). ATF issued Industry Circular 92-1, Procedures for Importing Italian Wines, on March 16, 1992, which required importers to provide a certificate of analysis for wines from that region at the time of im-

portation, attesting to the absence of MITC. From the time Industry circular 92-1 was issued until August 1992, approximately 1,300 certificates of analysis were received. It was determined that these certificates of analysis would be used to implement the random testing of pertinent wines. If follow-up analysis reflects the absence of MITC, ATF will rescind Industry Circular 92-1.

ATF has initiated programs to determine the lead content in wines and also in some other beverage alcohol products. Primarily, the emphasis is on wines and especially wines with lead capsules. A market basket program has been in place to obtain samples of imported beverage alcohol products to monitor their lead content. In addition, a domestic lead adulteration sampling program is in progress to assist wine producers in identifying the sources of lead contamination. This should result in reduced lead levels in wine. In ATF Industry Circular 91-11, issued October 3, 1991, the lead limit in table wines is 300 parts per billion. FDA, in consultation with ATF, is considering elimination of lead capsules to further reduce lead exposure to consumers. ATF published a notice of proposed rulemaking in the *Federal Register* on November 25, 1992. This notice was part of FDA's continuing effort to reduce lead levels in food. This notice is proposing to prohibit the use of tin-coated lead foil capsules on wine bottles. This action is based on evidence that the lead in these capsules may become a component of the wine.

Department of Veterans Affairs (VA)

The Department of Veterans Affairs has had a Preventive Medicine Program since 1985. It is under the Veterans Health Administration (VHA), Office of Clinical Programs, Medical Service. Each VA medical center and independent outpatient clinic has a Preventive Medicine Program. The program is conducted within the medical care system and interventions/services are provided to patients being cared for through that system. Each of the facilities has a medicine coordinator and there is a National Program Coordinator at VA Central Office.

VA Prevention Highlights

Preventive Medicine Program. The program focuses on risk factor interventions and services which represent diseases that have high mortality and morbidity in the VA patient population. These interventions include screening for hypertension, high cholesterol, and breast, cervical, and colorectal cancers; inquiry counseling for alcohol, nutrition/weight control, physical fitness/exercise, and smoking; and influenza immunization. While activity is encouraged in all interventions, each year one intervention receives special emphasis. It is hoped that through highlighted interventions there will be a greater awareness of the importance of prevention and early detection. Special interventions were FY 1985–86, Influenza Immunization; FY 1987, Colorectal Cancer Screening; FY 1988, Smoking Cessation; FY 1989–90, Cholesterol Screening; FY 1991, Smoking Cessation; FY 1992, Alcohol Abuse: Diagnosis and Treatment; and FY 1993, Mammography. The program guidelines and goals were developed using the *U.S. Preventive Services Task Force Guide to Clinical Prevention Services*. A future area of emphasis may be nutrition screening and counseling for the elderly veterans.

While there is notable activity in all preventive interventions, hypertension screening is the most frequently performed. There are increasing numbers of cholesterol screens and mammograms. There is a smoking control officer at each VA facility to administer the smoking policy and procedures and to coordinate the local smoking cessation program. Health care professionals consider prevention as essential to continuum of care particularly to meet the needs of aging veterans.

Environmental Protection Agency (EPA)

The mission of the Environmental Protection Agency is to protect human health and the global environment from pollution. Major EPA programs address air quality, water quality (including safe drinking water), pesticides, hazardous and solid waste, toxic substances, the protection of groundwater and wetlands, and climate change. EPA coordinates and supports activities and research by State and local governments, public and private groups, individuals, and educational institutions. EPA also works with other Federal agencies to support their efforts to prevent or mitigate the impact of their own activities on human health and the environment. The research programs at EPA are designed to identify potential environmental pollutants and to develop exposure monitoring techniques and pollution prevention and control techniques. EPA works to prevent, control, and respond to pollution using a broad range of tools, including research, information dissemination, standard-setting, regulation, permits, enforcement, education, and collaborative activities with the public and the private sector.

EPA Prevention Highlights

EPA's Science Advisory Board has recommended that EPA should emphasize pollution prevention as the preferred option for reducing risk. In a 1993 Earth Day statement, pollution prevention was established as the guiding principle for environmental efforts.

For EPA, pollution prevention does not simply mean reducing exposure to pollutants. The most cost-effective and environmentally protective approach is to prevent the generation of wastes. It is not cost effective or environmentally effective to allow the generation of wastes and their disposal into the environment, attempt to establish safe levels of exposure, and then attempt to cleanup the environment to those levels. The Pollution Prevention Act states a national policy that pollution should be prevented or reduced at the source where feasible.

EPA policy includes seven key components:

- Incorporate multimedia prevention in all activities of EPA, including regulatory development, permitting, and enforcement;

- Build a national network of prevention programs among State, local, and tribal governments;
- Expand those environmental programs that emphasize cross-media prevention, reinforce the mutual goals of economic and environmental well-being, and represent new models for government/private sector interaction;
- Establish new Federal partnerships to promote prevention;
- Increase efforts to generate and share information to promote prevention and track progress through measurement systems such as the Toxic Release Inventory (TRI);
- Develop partnerships in technological innovation with other agencies and the private sector to increase industrial competitiveness and enhance environmental stewardship; and
- Seek changes, where justified, in Federal environmental laws that will encourage source reduction.

TRI includes information on the type and quantities of toxic chemicals that companies are releasing into the environment. Data are compiled from annual reports filed by the chemical companies. Since passage of the Emergency Planning and Community Right-To-Know Act, TRI has become a cornerstone of efforts to identify, target, measure, and reduce toxic chemicals. TRI data are available to the public.

In August 1993, President Clinton signed an executive order that requires Federal facilities to reduce emissions and report annually under TRI. EPA has proposed an expansion of the TRI list to include approximately 300 additional chemicals; a second phase of the expansion would increase the facilities that report under TRI. Beginning with the 1991 reporting year, companies also reported quantities of waste generated and the progress they had made in pollution prevention.

Reducing Lead-Based Paint Hazards. Approximately one in every six children in the United States has a blood lead level that exceeds CDC-recognized safe levels. Childhood lead poisoning is one of the most common and preventable pediatric health problems in the United States today. Young children, from birth to 6 years, are particularly susceptible to the toxic effects of lead. If pregnant women are exposed, fetuses may to subjected to lead. The process of eliminating lead-based paint hazards characteristically creates large amounts of lead dust. The ease with which lead contaminated dust is ingested by young children makes it especially important to control during the remediation process. To assure that the public is protected, the workforce responsible for eliminating lead hazards must be properly trained to contain the dust.

Although EPA has had an active role in dealing with lead issues for many years, the regulatory component of EPA's efforts to address lead hazards was expanded by Congress in the Housing and Community Development Act of 1992. Title X provides for a comprehensive national approach to dealing with lead hazards in the Nation's housing stock by mandating that regulatory and programmatic activities be undertaken by a number of Federal agencies.

Federal Emergency Management Agency (FEMA)

The Federal Emergency Management Agency (FEMA) is the focal point within the Federal Government for emergency planning, preparedness, mitigation, response, and recovery. FEMA works closely with State and local governments by funding emergency programs and providing technical guidance and training. These coordinated activities at the Federal, State, and local levels ensure a broad-based emergency program to protect public safety and property. FEMA was established in the executive branch as an independent agency pursuant to Reorganization Plan No. 3 of 1978 (5 U.S.C. Appl.1) and Executive Orders 12127 of March 31, 1979, "Federal Emergency Management Agency," and 12148 of July 20, 1979, "Federal Emergency Management."

FEMA PREVENTION HIGHLIGHTS

National Preparedness Capability. The National Preparedness Directorate develops and coordinates the national policy, programs, and facilities necessary for attaining and maintaining the Federal Government's capability to deliver effective emergency management during all phases of national security and/or catastrophic emergencies.

State and Local Programs. The State and Local Programs and Support Directorate administers programs in support of State and local governments that are designed to improve emergency planning, preparedness, mitigation, response, and recovery capabilities at the State and local levels in an all hazards context. They are responsible for coordinating the development of the Federal Response Plan, the plan for a Federal response to a catastrophic disaster; administering the President's Disaster Assistance Program, which provides supplemental Federal assistance in declared disasters and emergencies; leading and administering the National Earthquake Hazards Reduction Program, which is a comprehensive mitigation program designed to reduce loss of lives and property from future earthquakes; and administering the Emergency Food and Shelter Program, which provides grants to private nonprofit organizations for temporary food and shelter services for homeless persons.

Federal Insurance. The Federal Insurance Administration administers the National Flood Insurance Program (NFIP) and the Federal Crime Insurance Program (FCIP). The NFIP is a Federal program that makes flood insurance available to residents of communities that adopt and enforce the NFIP's floodplain management regulations to reduce future flood losses. There are 18,210 communities participating in NFIP, a self supporting program requiring no taxpayer funds to pay claims or operating expenses. The FCIP authorizes the Federal Government to sell crime insurance at affordable rates in any eligible State. The FCIP offers protection to home and

business owners against financial loss from burglary and robbery. There are currently 11 States participating in the FCIP.

Fire Policy. The United States Fire Administration (USFA) provides leadership, coordination, and support for fire prevention and control, hazardous materials, and emergency medical services activities. USFA develops and disseminates fire safety information to fire services and the general public. Through its National Fire Academy, USFA develops and delivers training and education programs to fire service personnel. USFA is also responsible for the activities of the National Fire Data Center and the management of the National Emergency Training Center in Emmitsburg, Maryland. USFA works closely with national fire service organizations; Federal, State, and local government agencies; and the private sector to develop and implement programs to significantly reduce the Nation's fire deaths, injuries, and property losses.

Federal Trade Commission (FTC)

The Federal Trade Commission is responsible for enforcing the antitrust laws and for protecting consumers from unfair or deceptive acts or practices in the marketplace. With respect to disease prevention and health promotion, FTC engages in four principal activities. First, it develops law enforcement initiatives designed to prevent the dissemination of false or deceptive information about health-related products and services. Second, it enforces antitrust laws to increase access by patients to affordable health care and to remove unreasonable restraints on the marketing arrangements of health care providers. Third, it conducts economic studies, which often serve as a basis for casework in the Bureau of Consumer Protection or Competition. Fourth, it conducts education efforts to assist consumers in selecting and using the services of providers of health care and in avoiding the harms caused by fraud schemes and other deceptive health-related practices.

FTC Prevention Highlights

Orders Prohibiting Unfair or Deceptive Advertising. The FTC has issued orders or obtained injunctions prohibiting unfair or deceptive advertising or marketing of diet products and diet programs; health care services such as cosmetic surgery; procedures to treat infertility; and foods and food supplements. The FTC also obtained several settlements with food companies for allegedly deceptive advertising about the fat and cholesterol content of their products. These companies are prohibited from making unsubstantiated health claims in the future.

Orders Prohibiting Restraints on Advertising by Health Care Professionals. To facilitate consumer access to information they may need in choosing health care services and providers, the FTC seeks to eliminate unreasonable restraints on truthful, nondeceptive advertising by health care professionals. In a recent proceeding, for example, the FTC charged that a State chiropractic association had conspired to restrict competition through advertising restrictions, including prohibitions on the truthful advertising of price discounts, free services, and claims of unusual expertise.

Orders Prohibiting Unfair Methods of Competition. To promote the availability of affordable health care services, the FTC has issued a number of orders settling charges of unfair methods of competition. Orders prohibiting price fixing, boycotts, and staff coercion were issued.

Eyeglass Prescription Release Rule. The FTC voted to continue its trade regulation rule requirement that optometrists and ophthalmologists provide consumers with a copy of their eyeglass prescription, at no extra cost, immediately after an eye exam.

Economic Studies. FTC staff economic studies examine the effects of market forces and regulations on the prices of health care services and products. A 1990 study examining the costs and benefits of occupational regulation noted the relatively large costs to consumers of licensure in certain health care professions. The report suggests several alternative forms of regulation that may impose less cost for consumers while maintaining appropriate quality levels.

Consumer Education. To promote health education in areas where it has pursued investigations and cases, the FTC has produced more than a dozen health-related, multimedia consumer education campaigns over the past 10 years.

The Facts About Weight Loss Products and Programs, presented in 1992 as a multi-media public service campaign by the FTC, the Food and Drug Administration, and the National Association of Attorneys General, was designed to help consumers avoid scams and encourage them to consider the costs and the consequences of their dieting decisions.

Diet Programs, a brochure published in 1990, warns consumers that there is evidence that only a small proportion of people maintain weight loss for any significant time after using programs that promise easy, quick, or permanent weight loss and use liquid diets or require special diet regimens.

Hearing Aids, developed in cooperation with the American Association of Retired Persons (AARP) in 1991, provides information about hearing loss and what to look for when shopping for a hearing aid. It stresses the importance of a medical exam and the value of a hearing aid trial period.

Cosmetic Surgery, published in 1991, stresses the importance of selecting a doctor who is well-trained and experienced in performing specific procedures. It provides questions consumers may want to ask doctors they are consulting. It also lists some common cosmetic surgery procedures and their potential risks.

Infertility Services, a brochure published in 1990, provides information to help consumers better evaluate success-rate claims and select the best program for their specific needs.

Food Advertising Claims, a brochure published in 1992, describes fat, no or low cholesterol, and "light" claims in advertisements. It also alerts consumers to the Food and Drug Administration's new food labeling regulations.

Healthy Questions, a booklet developed in cooperation with AARP, explains how to select and use the health care services of physicians, pharmacists, dentists, and vision care specialists.

Health Claims: Separating Fact From Fiction, a brochure published in 1986, aims to help consumers recognize and avoid health fraud schemes. This publication is available in English and Spanish.

Eye Care, a brochure published in 1987, explains the FTC's Eyeglasses Rule and the various types of eye care professionals. It also gives some suggestions about shopping for eye care, especially contact lenses.

Generic Drugs, a television public service announcement and brochure campaign, defines the term "generic drug" as well as other drug terminology. The Drug Product Selection Law is also explained.

Sunscreens, a videotape and brochure education campaign produced in 1990, provides information about sun exposure and sunscreen protection.

Indoor Tanning, a brochure published in 1988, explains how indoor tanning devices work and describes the risks associated with using them.

U.S. Consumer Product Safety Commission (CPSC)

The U.S. Consumer Product Safety Commission is an independent regulatory agency created in 1973 to protect consumers from unreasonable risks of injury associated with consumer products. CPSC administers the Consumer Product Safety Act, the Flammable Fabrics Act, the Federal Hazardous Substances Act, the Poison Prevention Packaging Act, and the Refrigerator Safety Act. Because CPSC's mandate from Congress is to eliminate or reduce unreasonable risks of injury or illness that may be associated with consumer products, all of its activities involve the prevention of injury or diseases. CPSC continuously strives to identify those products that present the more serious safety problems for consumers and to deal with them on a priority basis. The National Electronic Injury Surveillance System (NEISS) is a cooperative effort with randomly selected hospitals throughout the country that provides nationally representative data about product-related injuries treated in emergency rooms.

CPSC Prevention Highlights

Cigarette Lighters. Children playing with cigarette lighters caused an estimated 7,700 residential fires that resulted in about 160 deaths and 1,700 injuries annually during 1988–1990. Children under age 5 ignited about three-quarters of these fires accounting for over 90 percent of the deaths and 80 percent of the injuries. Children under age 5 were also fire victims, accounting for about three-quarters of the related deaths. CPSC initiatives to address this problem included development of a draft mandatory standard using a protocol for testing young children's ability to operate surrogate lighters (lighters redesigned to signal operability without a flame) and cooperation with lighter manufacturers to encourage development of a child-resistant cigarette lighter.

Cigarette Fire Safety. More than one of every four fire deaths occurs in a fire started by a cigarette. During 1990, more than 1,200 persons were estimated to have died in such fires. The United States currently has one of the highest per capita fire death rates in the world. In an effort to address this problem, Congress enacted the Fire Safe Cigarette Act of 1990 to assess the practicability of developing a performance standard to reduce cigarette ignition propensity. Specific tasks included developing a test method for measuring cigarette ignition propensity; collecting data about the characteristics of cigarettes, smokers, and materials ignited in cigarette-ignited fires; developing information about societal costs of cigarette fires; and investigating possible changes in smoke toxicity and resultant health effects of prototype ignition-resistant cigarettes.

Swimming Pools. In 1989, 550 people are estimated to have drowned in residential swimming pools in the United States. Some 300 of these were children under the age of 5. In addition, in 1991, an estimated 2,300 children under the age of 5 were treated in hospital emergency rooms for submersion injuries. About 700 spinal cord injuries are estimated to occur annually in pools and other bodies of water. The objectives of CPSC's activities in this area are to reduce the number of child drownings and near-drownings in residential swimming pools and to reduce the number of diving deaths and injuries in all pools. The model guideline codes have adopted the CPSC recommendations for swimming pools, spas, and hot tubs.

Playground Injuries. Through data from NEISS, CPSC has long recognized the potential hazards that exist with the use of playground equipment. Commission studies of more than 200,000 playground-equipment-related injuries treated in U.S. hospital emergency rooms each year indicate that the majority of injuries result from falls, primarily falls to the surface below the equipment.

In 1991, CPSC staff published of a handbook of general safety information for public playgrounds for use by school or park officials and consumers in designing or maintaining new and existing public playgrounds. Staff continues to participate in the development of and revisions to three technical voluntary standards to be used by manufacturers and designers. These standards address hazards associated with public playground equipment, home playground equipment, and playground surfacing.

Riding Mowers. Statistics compiled from 1983 through 1989 indicate that an estimated 19,600 injuries related to riding mowers were treated in U.S. hospital emergency rooms each year. The hospitalization rate for riding mower-related injuries is almost twice the average rate for all injuries related to other products as reported through NEISS. The major hazards are blade contact and loss of stability. Analysis based on data from 1983 through 1986 showed that about half of the injuries occurring during mower use were to persons under 16 or over 55 years old. The majority of fatalities, estimated at 75 deaths per year, involved mower overturning, mower running/backing over a child or a bystander, and operator falling or being thrown from mower. About 60 percent of the deaths reported were children under 5 or adults over 65 years old. The goal of the riding mower project is to develop recommendations on dynamic stability, blade contact, and control layout by 1994. These recommendations may lead to improvements to the voluntary standard that reduce deaths and injuries to the customers.

Gas Detection/LP Gas Odorization. More than 400 deaths occur each year as a result of fire or carbon monoxide poisoning from gas-fired heating equipment. Mortality data indicate that gas heating systems account for the majority of non-fire-related carbon monoxide deaths in the home. NEISS and other data reveal significant hazards associated with fires from water heaters, central furnaces, and space heaters, as well as carbon monoxide poisonings from room heaters and furnaces. Water heaters appear to be the largest single contributor to fire losses associated with gas heating equipment. Gas-fired heating appliances accounted for about 13,900 fires, 770 civilian injuries, and 190 fire-related deaths in 1990; of these totals, an estimated 5,800 fires, 430 civilian injuries, and 40 deaths were associated with water heaters. Analysis of water heater fires reveals a larger portion of incidents involving LP gas than natural gas, relative to the number in use.

CPSC has been successful in obtaining voluntary standard safety improvements for gas-fired central furnaces and vented room heaters to protect consumers from carbon monoxide poisoning. Also, pilot lighting instructions have been improved for gas-fired heating equipment with pilots, a change that is expected to reduce the injuries that occur when attempting to light the appliance. The opportunity to react to leaking LP gas by odor detection may be missed if odorant is lost due to oxidation in new tanks or absorption into masonry walls. The elderly are particularly vulnerable since 25 to 50 percent of people over age 63 have reduced ability to detect odors. Staff will evaluate any new odorant recommended by industry, while also reviewing the state of the art for fuel gas detectors and gas detector installation instructions.

Poison Prevention. In 1991, an estimated 133,500 children under the age of 5 were treated in hospital emergency rooms for accidental ingestions, chemical burns, and other acute injuries associated with household substances. Accidental ingestion accounted for a large percentage of these injuries. Data from NCHS show that 49 deaths in 1990 resulted from accidental ingestion of prescription drugs and hazardous household chemicals. To reduce exposure of young children to hazardous household chemicals, CPSC proposed revisions to child-resistant packaging regulations to promote development of effective package designs that are easier for all adults to use. In addition, CPSC conducted a study of aversive agents to determine their potential effectiveness in deterring the ingestion of household chemicals by young children and transmitted a report to the United States Congress in December 1992. This report advised against requiring the addition of potentially aversive agents to household products.

Chronic Chemical Hazards. CPSC has focused recent attention on reducing consumer exposure to chemicals in paint products, pacifiers, school lab chemicals, heating equipment, and asbestos in the home. In 1987, CPSC issued a policy statement that it believes methylene chloride presents a carcinogenic risk and should be so labeled. Methylene chloride, a solvent found in aerosol spray paints and chemical paint strippers, caused cancer in laboratory animals at levels in air similar to those that humans might encounter in the occasional use of those products without adequate ventilation. CPSC continues to monitor levels of carcinogenic nitrosamines in rubber pacifiers and di(2-ethylhexyl)phthalate in vinyl pacifiers and teethers to minimize exposure to these chemicals. CPSC continues to be concerned about exposures of consumers to lead in paint. An information brochure has been distributed for consumer use and lead test kits are being evaluated. CPSC is also considering the need to lower the level of lead presently allowed in paint. CPSC has completed a laboratory study to determine the biological pollutants (allergens and pathogens) that consumers may be exposed to in the home from use of portable humidifiers. The laboratory study indicated that certain humidifiers, cool mist and ultrasonic, readily emit microorganisms from their reservoirs. CPSC has asked the American Home Appliance Manufactures (AHAM) to provide consumers with effective maintenance and cleaning instructions. CPSC is encouraging the kerosene heater industry, and the unvented gas space heater industry, to develop voluntary standards to limit emissions of toxic gases from these appliances. In response to numerous requests for guidance, CPSC has investigated levels of airborne asbestos fibers in homes that contained damaged or worn asbestos material. Airborne levels of asbestos were not found to exceed outdoor levels in the homes studied. CPSC issued guidelines and a definition of criteria for labeling products containing carcinogens, reproductive or developmental toxicants, or neurotoxicants. This effort was part of the labeling of Hazardous Art Materials Act and the Federal Hazardous Substances Act. CPSC is currently studying emissions from wood stoves, carpets, and carpet cushioning to ascertain if a hazard exists. In addition, CPSC is monitoring toxicity and exposure information on substitute formulations for methylene chloride paint strippers.

Heat Tapes. Electric heat tapes are electric heaters in the form of tapes or cables. Different types of heat tape are manufactured for a variety of users. They are plugged into outlet receptacles and produce low levels of heat to prevent water from freezing in pipes, to melt slush and ice in gutters and downspouts, and to prevent plants from freezing in gardens and greenhouses. The tapes used on water pipes are intended to be wrapped around the pipe or run along the length of the pipe and usually are covered with thermal insulation. In 1990, 2,000 fires, 10 deaths, and 100 injuries were attributed to heat tape ignition. The fire estimates indicate that more than half of these fires occur in mobile homes, suggestive that the dam-

age and injuries fall disproportionately on those with lower incomes. As with all residential fires, the elderly, the disabled, and children are particularly vulnerable. A multi-year project is in progress to determine if these products pose an unreasonable risk of injury and to determine what measures might be effective to reduce the fire hazards associated with the use of these products.

Buckets. Since January 1984, CPSC has received reports of 213 bucket-related drownings and 25 non-fatal incidents. Most of the victims were children between 8 and 14 months of age. Of incidents where race was known, the majority involved members of minority groups. Most of the buckets were made from plastic and had a capacity of 5 gallons. Since 1989, CPSC has been working with industry to address the drowning hazard presented by 5-gallon buckets. At the request of the Commission, ASTM (formerly the American Society for Testing and Materials) established Subcommittee F15.31 on May 5, 1992. The subcommittee is developing a consensus standard for specification of cautionary labeling for 5-gallon open head containers and is exploring the feasibility of a performance standard. The only existing legislation addressing this problem is a California law requiring warning labels on all 5-gallon buckets sold in that State after September 1, 1993.

Infant Suffocation. Each year about 200 suffocation-related deaths of infants under 1 year of age are reported to the National Center for Health Statistics. Some suffocation deaths may not be identified because they are diagnosed as Sudden Infant Death Syndrome (SIDS). SIDS is the official cause of death for about 6,000 infants each year. Since suffocation and SIDS are typically indistinguishable at autopsy, some suffocation deaths may be diagnosed as SIDS. During the winter of 1989–1990, CPSC became aware of infant deaths associated with the use of infant bean bag cushions. As of July 1992, 37 incidents had been identified; 35 of these resulted in death. Most of these deaths were diagnosed as SIDS although the infants were found with their faces down into the product. CPSC banned the cushions in June 1992. Based on its experience with the infant bean-bag cushions, CPSC recognized that other product-related infant suffocative deaths may be missed. CPSC initiated the Infant Suffocation Project to identify products and product characteristics that may be involved in, or contribute to the suffocation of infants.

Through FY 1994, CPSC investigators continue to conduct death scene investigations of infants who died from suspected SIDS or suffocation. When possible, the products on which infants died will be collected from parents or medical examiners, or identical products purchased for evaluation in CPSC laboratories. The information gathered from this study will be analyzed by CPSC staff to determine if the products and product characteristics contributed to the suffocation of infants. This information may assist the CPSC in developing potential remedial strategies.

CHAPTER 4

DHHS PREVENTION RESOURCES INVENTORY

The tables that follow present a comprehensive profile of health promotion and disease prevention programs and activities within the Department of Health and Human Services. Together this inventory and the Chapter 3 narrative provide a composite of DHHS activities directed toward improving the general health of the American people. The inventory is organized into the 22 prevention priority areas of *Healthy People 2000: National Health Promotion and Disease Prevention Objectives*. The inventory includes programs of the Public Health Service, the Health Care Financing Administration, and the Administration for Children and Families. Resource levels are reported in detail for fiscal years 1992 and 1993.

Table 1. Block Grant Resources, FY 1992 and 1993

(Dollars in Thousands)

Block Grant Resources	FY 1992 Actual	FY 1993 Estimated
Total Block Grant Funding		
Substance Abuse and Mental Health Services (ADMS) Block Grant	$1,408,250	$1,408,250
Preventive Health Services Block Grant [1]	134,511	148,743
Maternal and Child Health (MCH) Services Block Grant	649,564	664,534
Community Services Block Grant [2]	435,207	440,871
Social Services Block Grant [2]	2,805,128	2,800,000
Total, Block Grant Funding	**$5,432,660**	**$5,462,398**
Funds Targeted to Prevention Activities		
ADMS Block Grant	201,698	226,102
Preventive Health Services Block Grant[1]	21,000	21,000
MCH Services Block Grant	290,496	299,000
Community Services Block Grant [2]	[2]	[2]
Social Services Block Grant [2]	[2]	[2]
Total, Targeted to Prevention	**$513,194**	**$536,102**

[1]Total funding for Preventive Health Services Block Grant is included on the assumption that all of these activities are prevention related but are not readily identifiable in any one category.
[2]For Community Services and Social Services Block Grants, funds specifically for health promotion and disease prevention activities are unknown.

Table 2. Resources for Prevention Activities, by Agency, Department of Health and Human Services, FY 1992 and 1993

(Dollars in Thousands)

AGENCY		FY 1992 ACTUAL	FY 1993 ESTIMATED
	Public Health Service		
	Agency for Health Care Policy and Research	$50,550	$49,939
	Centers for Disease Control and Prevention	1,111,784	1,212,028
	Food and Drug Administration	319,956	331,050
	Health Resources and Services Administration	1,157,289	1,224,255
	Indian Health Service	673,376	717,087
	National Institutes of Health	3,142,213	4,727,963
	Office of the Assistant Secretary for Health	169,683	187,377
	Substance Abuse and Mental Health Services Administration	897,312	1,052,150
	Subtotal, Public Health Service	$7,000,663	$9,501,849
	Health Care Financing Administration	10,936,000	13,304,000
	Administration for Children and Families	413,698	445,571
	Total Resources	**$20,350,361**	**$23,251,420**

Table 3. Resources for Prevention Activities, by HEALTHY PEOPLE 2000 Priority Area, Department of Health and Human Services, FY 1992 and 1993

(Dollars in Thousands)

PREVENTION PRIORITY AREAS		FY 1992 ACTUAL	FY 1993 ESTIMATED
	1. Physical Activity and Fitness	$39,373	$37,488
	2. Nutrition	147,551	172,765
	3. Tobacco	19,826	22,081
	4. Alcohol and Other Drugs	1,470,209	1,628,978
	5. Family Planning	668,825	804,748
	6. Mental Health and Mental Disorders	1,470,828	1,749,587
	7. Violent and Abusive Behavior	70,325	69,878
	8. Educational and Community-Based Programs	257,935	270,077
	9. Unintentional Injuries	50,127	58,110
	10. Occupational Safety and Health	96,605	97,656
	11. Environmental Health	387,219	401,235
	12. Food and Drug Safety	210,662	212,785
	13. Oral Health	768,973	1,038,649
	14. Maternal and Infant Health	5,824,679	6,508,937
	15. Heart Disease and Stroke	180,144	182,172
	16. Cancer	1,055,012	1,152,574
	17. Diabetes and Chronic Disabling Conditions	1,126,101	1,180,986
	18. HIV Infection	857,231	864,404
	19. Sexually Transmitted Diseases	108,607	114,518
	20. Immunization and Infectious Diseases	636,505	773,291
	21. Clinical Preventive Services	707,644	775,551
	22. Surveillance and Data Systems	63,480	66,981
	Total Resources	**$16,217,861**	**$18,183,451**

Table 4. Agencies Reporting Prevention Activities, by HEALTHY PEOPLE 2000 Priority Area, Department of Health and Human Services, FY 1992

(Dollars in Thousands)

Agencies Reporting Prevention Activities	1. Physical Activity and Fitness	2. Nutrition	3. Tobacco	4. Alcohol and Other Drugs	5. Family Planning
Public Health Service					
Agency for Health Care Policy and Research	$0	$0	$0	$0	$0
Centers for Disease Control and Prevention	447	719	7,343	0	0
Food and Drug Administration	0	7,205	0	6,500	0
Health Resources and Services Administration	2,000	363	2,068	7,980	50,644
Indian Health Service	0	0	0	77,800	1,500
National Institutes of Health	23,406	136,729	18,812	301,665	172,696
Office of the Assistant Secretary for Health	1,520	126	0	500	58,591
Substance Abuse and Mental Services Administration	0	0	0	827,869	0
Subtotal, Public Health Service	$27,373	$145,142	$28,223	$1,222,314	$500,378
Health Care Financing Administration	0	0	0	202,000	405,000
Administration for Children and Families	12,000	94,097	0	50,564	+
Total Resources Reported	$39,373	$239,239	$28,223	$1,474,878	$905,378

Agencies Reporting Prevention Activities	13. Oral Health	14. Maternal and Infant Health	15. Heart Disease and Stroke	16. Cancer	17. Diabetes and Chronic Disabling Conditions
Public Health Service					
Agency for Health Care Policy and Research	$1,440	$5,471	$8,270	$4,008	$9,166
Centers for Disease Control and Prevention	935	6,696	99	41,300	24,925
Food and Drug Administration	0	0	0	10,000	0
Health Resources and Services Administration	25,782	258,830	0	516	197,798
Indian Health Service	36,325	308,875	75	6,750	6,500
National Institutes of Health	31,253	544,249	207,978	699,411	1,112,790
Office of the Assistant Secretary for Health	0	0	0	0	0
Substance Abuse and Mental Health Services Administration	0	10,000	0	0	0
Subtotal, Public Health Service	$95,735	$1,134,121	$216,422	$757,812	$1,351,179
Health Care Financing Administration	627,000	5,000,000	0	295,000	0
Administration for Children and Families	46,238	33,700	1,350	2,200	0
Total Resources Reported	$768,973	$6,167,821	$217,772	$1,059,185	$1,351,179

+ Total amount spent on prevention is not known. In 1992, 23 States provided family planning services.

Table 4 (continued)

(Dollars in Thousands)

6. Mental Health and Mental Disorders	7. Violent and Abusive Behavior	8. Educational & Community-Based Programs	9. Unintentional Injuries	10. Occupational Safety and Health	11. Environmental Health	12. Food and Drug Safety
$0	$0	$0	$697	$0	$0	$0
989	14,678	37,218	17,147	69,011	37,153	0
0	0	0	0	0	3,899	205,050
4,613	1,371	31,849	5,948	25,597	9,009	0
24,804	2,696	63,650	600	0	108,000	0
59,044	11,425	48,953	29,013	1,997	506,260	5,612
0	4,910	3,685	0	0	0	0
41,219	0	0	0	0	0	0
$130,669	$35,080	$185,355	$53,405	$96,605	$664,321	$210,662
1,338,000	0	$1,259,000	0	0	0	0
2,159	36,869	91,209	6,932	0	2,098	0
$1,470,828	$71,949	$1,535,564	$60,337	$96,605	$666,419	$210,662

18. HIV Infection	19. Sexually Transmitted Diseases	20. Immunization and Infectious Diseases	21. Clinical Preventive Services	22. Surveillance and Data Systems	Total Resources Reported
$8,148	$0	$1,244	$12,106	$0	**$50,550**
407,876	85,652	311,812	0	47,784	**1,111,784**
72,302	0	15,000	0	0	**319,956**
111,524	0	18,000	396,637	6,760	**1,157,289**
3,170	0	1,266	25,000	6,365	**673,376**
227,719	26,672	127,015	146,295	59,271	**4,601,107**
1,287	0	0	4,565	0	**189,289**
7,983	0	0	10,241	0	**897,312**
$840,009	$112,324	$474,337	$594,844	$120,180	**$ 9,000,663**
0	0	160,000	255,000	0	**$10,936,000**
13,056	0	21,226	0	0	**413,698**
$853,065	$112,324	$655,564	$849,844	$120,180	**$20,350,361**

Table 5. Agencies Reporting Prevention Activities, by HEALTHY PEOPLE 2000 Priority Area, Department of Health and Human Services, FY 1993 (Estimated)

(Dollars in Thousands)

Agencies Reporting Prevention Activities	1. Physical Activity and Fitness	2. Nutrition	3. Tobacco	4. Alcohol and Other Drugs	5. Family Planning
Public Health Service					
Agency for Health Care Policy and Research	$0	$0	$0	$0	$0
Centers for Disease Control and Prevention	571	622	10,300	0	0
Food and Drug Administration	0	7,250	0	6,800	0
Health Resources and Services Administration	2,000	333	1,100	8,544	59,761
Indian Health Service	0	0	0	82,334	2,277
National Institutes of Health	23,983	142,151	29,966	305,863	275,097
Office of the Assistant Secretary for Health	1,510	50	0	500	172,696
Substance Abuse and Mental Services Administration	0	0	0	952,332	0
Subtotal, Public Health Service	$28,064	$150,406	$41,366	$1,356,373	$509,831
Health Care Financing Administration	0	0	0	232,000	510,000
Administration for Children and Families	9,424	116,965	0	47,005	+
Total Resources Reported	$37,488	$267,371	$41,366	$1,635,378	$1,019,831

Agencies Reporting Prevention Activities	13. Oral Health	14. Maternal and Infant Health	15. Heart Disease and Stroke	16. Cancer	17. Diabetes and Chronic Disabling Conditions
Public Health Service					
Agency for Health Care Policy and Research	$1,357	$782	$7,570	$3,884	$8,339
Centers for Disease Control and Prevention	730	6,690	100	60,500	29,539
Food and Drug Administration	0	0	0	10,000	0
Health Resources and Services Administration	29,100	281,001	0	511	201,643
Indian Health Service	36,925	333,625	75	6,750	6,700
National Institutes of Health	31,235	554,644	211,977	708,029	1,166,965
Office of the Assistant Secretary for Health	0	0	0	0	0
Substance Abuse and Mental Health Services Administration	0	48,638	0	0	0
Subtotal, Public Health Service	$99,347	$1,225,380	$219,722	$789,674	$1,413,186
Health Care Financing Administration	881,000	5,600,000	0	365,000	0
Administration for Children and Families	58,302	34,948	1,350	2,200	0
Total Resources Reported	$1,038,649	$6,860,328	$221,072	$1,156,874	$1,413,186

+ Total amount spent on prevention is not known. In 1992, 23 States provided family planning services.

Table 5 (continued)

(Dollars in Thousands)

6. Mental Health and Mental Disorders	7. Violent and Abusive Behavior	8. Educational & Community-Based Programs	9. Unintentional Injuries	10. Occupational Safety and Health	11. Environmental Health	12. Food and Drug Safety
$0	$0	$0	$791	$0	$0	$0
724	14,715	37,182	20,001	70,011	44,984	0
0	0	0	0	0	5,000	207,100
4,618	1,291	31,084	8,070	25,597	10,606	0
25,987	2,909	69,023	2,100	0	111,000	0
61,737	11,360	58,966	27,102	2,048	523,282	5,685
0	4,910	4,413	0	0	0	0
32,836	0	0	0	0	0	0
$125,902	$35,185	$200,668	$58,064	$97,656	$694,872	$212,785
3,392,000	0	1,849,000	0	0	0	0
1,685	36,393	90,964	7,466	0	2,300	0
$3,519,587	$71,578	$2,140,632	$65,530	$97,656	$697,172	$212,785

18. HIV Infection	19. Sexually Transmitted Diseases	20. Immunization and Infectious Diseases	21. Clinical Preventive Services	22. Surveillance and Data Systems	Total Resources Reported
$4,979	$0	$1,176	$21,061	$0	**$49,939**
410,927	37,137	416,365	0	50,930	**1,212,028**
72,500	0	22,400	0	0	**331,050**
118,854	0	18,000	415,498	6,644	**1,224,255**
3,303	0	1,287	26,092	6,700	**717,087**
231,280	27,862	118,857	149,367	60,507	**4,727,963**
100	0	0	3,198	0	**187,377**
7,809	0	0	10,535	0	**1,052,150**
$849,752	$ 64,999	$578,085	$625,751	$124,781	**$9,501,849**
0	0	180,000	295,000	0	**13,304,000**
13,563	0	23,006	0	0	**445,571**
$863,315	$64,999	$781,091	$920,751	$124,781	**$23,251,420**

Table 6. Prevention Inventories, by HEALTHY PEOPLE 2000 Priority Area and Agency, Department of Health and Human Services, FY 1992 and 1993

(Dollars in Thousands)

1. PHYSICAL ACTIVITY AND FITNESS		FY 1992 ACTUAL	FY 1993 ESTIMATED
Centers for Disease Control and Prevention	**National Center for Chronic Disease Prevention and Health Promotion**		
	Heart Beat—The Rhythm of Health	$32	$0
	Physical Activity Contact Network	15	15
	Physician Assessment and Counseling for Exercise	175	0
	State-Based Physical Activity and Cardiovascular Disease Prevention Programs	225	556
Health Resources and Services Administration	**Maternal and Child Health Bureau**		
	Maternal and Child Health Block Grant	2,000	2,000
National Institutes of Health	**National Center for Research Resources**		
	Physical Activity and Fitness Prevention Research	1,008	990
	National Heart, Lung, and Blood Institute		
	Obesity Education Initiative	250	295
	Research on Effects of Physical Activity on Cardiovascular and Pulmonary Health	10,690	10,875
	National Institute on Aging		
	Physical Activity and Fitness	11,042	11,373
	National Institute for Nursing Research		
	Research on Physical Activity and Fitness	416	450
Office of the Assistant Secretary for Health	**President's Council on Physical Fitness and Sports**		
	Media Communication Campaigns	115	110
	Ten-Point National Program	1,400	1,400
	Visits by Chairman of President's Council of Physical Fitness and Sports to All 50 States	5	0
Administration for Children and Families	**Office of Community Services**		
	National Youth Sports Program	12,000	9,424
	Total	**$39,373**	**$37,488**

Table 6 (continued)

(Dollars in Thousands)

2. NUTRITION		FY 1992 ACTUAL	FY 1993 ESTIMATED
Centers for Disease Control and Prevention	**National Center for Chronic Disease Prevention and Health Promotion**		
	Food Industry Partnerships	$54	$55
	Prevention of Overweight and Consequences of Voluntary Weight Loss	271	276
	School-Based Nutrition Education	230	31
	State-Based Dietary Surveillance for Chronic Disease Prevention	164	260
Food and Drug Administration	**Center for Food Safety and Applied Nutrition**		
	Food Labeling Initiative	6,500	6,500
	Food Label and Package Survey	464	516
	Health and Diet Survey	106	100
	Weight Loss Study	135	134
Health Resources and Services Administration	**Bureau of Health Professions**		
	Health Professions Training and Education	363	333
National Institutes of Health	**Fogarty International Center**		
	Vascular Biology in Health and Disease	56	58
	National Center for Research Resources		
	Nutrition Prevention Research	11,997	11,774
	National Heart, Lung, and Blood Institute		
	Cardiovascular Disease Nutrition Education Programs for Adults with Low Literacy Skills: Request for Applications	1,869	1,800
	Dietary Intervention Study in Children with High Cholesterol Levels	2,018	970
	Growth and Health Study—Girlhood Obesity	2,285	2,117
	Multicenter Studies of Diet and Liproproteins: Effects on Atherogenesis	1,950	3,197
	National Cholesterol Education Program	1,248	1,396
	Trials of Hypertension Prevention: Weight Loss and Sodium Restriction	3,470	4,528
	Women's Health Trial: Effect of Low-Fat Diet on Post-Menopausal Heart Disease	410	460
	National Institute on Aging		
	Consumption of Foods Containing Complex Carbohydrates and Dietary Fiber*	2,000	2,160

Table 6 (continued)

(Dollars in Thousands)

2. NUTRITION (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health (cont.)	**National Institute on Aging (cont.)**		
	Effects of Dietary Fats/Lipids on Organ Function and Chronic Disease Development*	8,240	8,899
	Prevention and Treatment of Obesity*	6,180	6,674
	National Institute of Arthritis and Musculoskeletal Skin Diseases		
	Role of Calcium in the Etiology and Prevention of Osteoporosis	1,525	1,592
	National Institute of Deafness and Other Communication Disorders		
	Salt and Sodium Intake*	108	112
	National Institute of Diabetes and Digestive and Kidney Diseases		
	Obesity and Exercise Research	31	32
	Other Nutrition Research	44	45
	National Institute on Drug Abuse		
	Nutrition Prevention Research	900	1,000
	National Institute of Mental Health		
	Eating Disorders Research	650	671
	National Institute of Neurological Disorders and Stroke		
	Prevention and Treatment of Obesity*	60	60
Office of the Assistant Secretary for Health	**Office of Disease Prevention and Health Promotion**		
	Dietary Guidelines for Americans	72	0
	Secretary's Healthy Menu Program	54	50
Administration for Children and Families	**Administration on Children, Youth, and Families**		
	Head Start	88,072	111,052
	Office of Community Services		
	Community Food and Nutrition	3,000	2,966
	Migrants and Seasonal Farmworkers	3,025	2,947
	Total	**$147,551**	**$172,765**

*Program is funded by more than one institute.

Table 6 (continued)

(Dollars in Thousands)

3. Tobacco		FY 1992 Actual	FY 1993 Estimated
Centers for Disease Control and Prevention	**National Center for Chronic Disease Prevention and Health Promotion**		
	Reduction of Tobacco Use	$7,343	$10,300
Health Resources and Services Administration	**Bureau of Primary Health Care**		
	Oral Cancer Screening and Anti-Tobacco Counseling	100	100
	Maternal and Child Health Bureau		
	Grants for Projects to Decrease Substance Abuse	1,468	500
	Reducing Risk Behavior Among Adolescents and Young Women	500	500
National Institutes of Health	**National Center for Research Resources**		
	Tobacco Use Prevention Research	100	100
	National Heart, Lung, and Blood Institute		
	Lung Health Study: Effect of Special Care on Pulmonary Function of Smokers	5,248	5,248
	Other Research Programs Related to Smoking and Health	2,000	2,048
	Smoking Education Program	223	205
	National Institute of Dental Research		
	Smokeless Tobacco Use	0	100
	National Institute on Drug Abuse		
	Tobacco Prevention Research	1,900	2,000
	National Institute of Nursing Research		
	Research on Smoking Behavior	231	250
	National Institute on Aging		
	Tobacco	713	730
	Total	**$19,826**	**$22,081**

Table 6 (continued)

(Dollars in Thousands)

4. ALCOHOL AND OTHER DRUGS		FY 1992 ACTUAL	FY 1993 ESTIMATED
Food and Drug Administration	**Office of Regulatory Affairs**		
	Monitoring of Substance Abuse	$6,500	$6,800
Health Resources and Services Administration	**Bureau of Primary Health Care**		
	Health Care for the Homeless Program	7,845	8,420
	Bureau of Health Professions		
	Health Professions Training and Education	135	124
Indian Health Service	American Indian Anti-Drug Abuse Activities	77,800	82,334
National Institutes of Health	**Fogarty International Center**		
	Alcohol and Other Drugs Prevention Research	102	105
	National Center for Research Resources		
	Alcohol and Other Drugs Prevention Research	404	100
	National Heart, Lung, and Blood Institute		
	Prevention and Treatment of Hypertension Study (PATHS): Trial of Alcohol Restriction in the Treatment of Mild Hypertension	564	585
	Other Research Related to Alcohol and Heart Disease	932	945
	National Institute on Aging		
	Alcohol and Other Drugs	3,364	3,465
	National Institute on Alcohol Abuse and Alcoholism		
	AIDS and HIV Infections	1,940	2,000
	Advertising/Media	90	100
	Alcohol-Related Problems Among Special Populations	3,145	2,000
	Alcohol and Violence	0	379
	Community-Based Research	3,871	3,856
	Deterring Drinking and Driving	3,562	3,010
	Economic Aspects of Prevention	428	853
	Effects of Alcohol Warning Labels	1,239	1,400
	Prevention of Alcohol Abuse Among Youth	3,945	2,100
	Prevention Issues in the Workplace	1,806	1,200
	Prevention Research Center	1,515	1,635
	Primary Care	560	335
	Psycho-biologic Issues	2,486	1,920
	Small Business Innovation Research	1,038	835

Table 6 (continued)

(Dollars in Thousands)

4. ALCOHOL AND OTHER DRUGS (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health (cont.)	**National Institute on Drug Abuse**		
	Alcohol and Other Drug Abuse	11,659	12,400
	Early Interventions	46,326	49,800
	Special Populations	93,221	94,300
	Treatment Outcome Research*	4,299	4,300
	Maternal Drug Abuse Amelioration	44,257	45,200
	Neuroscience Research	60,128	60,200
	Workplace Drug Abuse Policy	1,698	1,700
	Workplace Program	2,867	2,900
	National Institute of Mental Health		
	Research on Prevention of Comorbid Mental Disorders and Substance Abuse	1,550	1,840
Office of the Assistant Secretary for Health	**Office of Population Affairs**		
	Family Planning Substance Abuse Training	500	500
Substance Abuse and Mental Health Services Administration	**Center for Substance Abuse Prevention**		
	Communication Cooperative Agreement	3,055	848
	Community Partnerships	98,786	105,063
	Community Youth Activity Program for High-Risk Youth	9,907	0
	Conference Grant Program	12,081	2,094
	High-Risk Youth Program	57,874	56,295
	Media and Communication Campaigns	3,363	4,701
	National Clearinghouse for Alcohol and Drug Information (NCADI)	5,036	4,172
	Pregnant and Postpartum Women and Their Infants Program	52,631	50,307
	Residential Women/Children Program	10,000	**
	Substance Abuse Prevention Training (SAPT)	15,088	14,598
	Training for Prevention and Treatment Providers	5,561	**
	Center for Substance Abuse Treatment		
	Activity Program for Disadvantaged Youth	10,932	11,337
	ADMS Block Grant	201,698	226,102
	Capacity Expansion Program	9,000	15,300
	Drug Treatment Programs	165,902	220,110

Table 6 (continued)

(Dollars in Thousands)

4. ALCOHOL AND OTHER DRUGS (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
Substance Abuse and Mental Health Services Administration (cont.)	**Center for Substance Abuse Treatment (cont.)**		
	Drug Treatment Programs in Campus Settings	17,988	18,395
	Family Planning Substance Abuse Training	500	500
	Improved Drug Treatment Initiatives	130,032	178,215
	Primary Care Provider/Substance Abuse Linkage Initiative	216	0
	SAPT Block Grant	2,300	11,305
	Treatment in Criminal Justice Settings	15,919	32,990
Administration for Children and Families	**Administration on Children, Youth, and Families**		
	Child Abuse and Neglect:		
	Discretionary Grants	1,417	1,417
	Emergency Prevention	19,518	19,039
	Runaway and Homeless Youth		
	Drug Prevention	15,286	14,602
	Youth Gang Drug Abuse Prevention Programs	10,943	10,647
	Office of Policy and Evaluation		
	Social Services Research Discretionary Grants	100	0
	Administration for Native Americans		
	National Native American Youth Alcohol, Drug, and Smoking Prevention Initiative	250	250
	Office of Community Services		
	Social Services Block Grant	+	+
	National Youth Sports Program	3,000	1,000++
	Administration on Developmental Disabilities		
	Prevention of Fetal Alcohol Syndrome	50	50
Health Care Financing Administration	Medicaid	142,000	162,000
	Medicare	60,000	70,000
	Total	**$1,470,209**	**$1,628,978**

* Program is funded by more than one institute.
** These programs were transferred to CSAT for treatment programs.
+ Total amount spent in preventive category is not known. In FY 1992, 12 States provided substance abuse services.
++ Total amount spent in preventive category is not known. FY 1993 funds are estimated; the $3 million in FY1992 represented a one-time only appropriation used for substance abuse prevention.

Table 6 (continued)

(Dollars in Thousands)

5. FAMILY PLANNING		FY 1992 ACTUAL	FY 1993 ESTIMATED
Health Resources and Services Administration	**Bureau of Primary Health Care**		
	Family Planning Services with Primary Care	$48,000	$57,000
	Bureau of Health Professions		
	Health Professions Training and Education	264	261
	Maternal and Child Health Bureau		
	Adolescent Training Grants	2,380	2,500
Indian Health Service	Fetal Alcohol Syndrome Among Americans Indians	1,500	2,277
National Institutes of Health	**National Center for Research Resources**		
	Family Planning Prevention Research	4,033	3,958
	National Institute of Child Health and Human Development		
	Reproductive Health	54,558	56,056
Office of the Assistant Secretary for Health	**Office of Population Affairs**		
	Adolescent Family Life "CARE" Demonstration Projects	3,190	3,059
	Adolescent Family Life "Prevention" Demonstration Projects	1,986	2,018
	Adolescent Family Life Research	1,003	994
	Family Planning General Training Program	2,230	2,565
	Family Planning Services Program	139,162	160,000
	Family Planning Information Exchange	167	175
	Family Planning Nurse Practitioner Training Program	1,250	1,408
	Family Planning Nurse Practitioner Accreditation Project	11	0
	Family Planning Research	1,090	2,477
	Family Planning STD/HIV Training*	3,001	0
Administration for Children and Families	**Office of Community Services**		
	Social Services Block Grant	+	+
Health Care Financing Administration	Medicaid	405,000	510,000
	Total	**$668,825**	**$804,748**

*Most of the earmarked funds in this category are from cooperative agreements with CDC and SAMHSA.
+Total amount spent on prevention category is not known. In FY 1992, 23 States provided family planning services.

Table 6 (continued)

(Dollars in Thousands)

6. MENTAL HEALTH AND MENTAL DISORDERS		FY 1992 ACTUAL	FY 1993 ESTIMATED
Centers for Disease Control and Prevention	**National Center for Injury Prevention and Control**		
	Case Control Study of Attempted Suicide	$300	$200
	National Electronic Injury Surveillance System	50	100
	Resource Guide on Youth Suicide Prevention Programs	20	0
	Screening Program for Suicide Risk in Adolescents	219	228
	Sentinel Injury Surveillance System	400	196
Health Resources and Services Administration	**Bureau of Primary Health Care**		
	Health Care for the Homeless Program	3,908	3,932
	Bureau of Health Professions		
	Health Professions Training and Education	705	686
Indian Health Service	Direct and Indirect Mental Health Services	24,804	25,987
National Institutes of Health	**National Center for Nursing Research**		
	Research on Promotion of Mental Health	219	240
	National Center for Research Resources		
	Mental Health and Mental Disorders Prevention Research	2,016	1,979
	National Heart, Lung, and Blood Institute		
	Psychophysiological Investigations of Myocardial Ischemia	1,400	1,400
	Other Stress Reduction Research and Demonstration Programs	8,000	8,192
	National Institute on Alcohol Abuse and Alcoholism		
	Case Study of Attempted Suicide	100	75
	National Institute of Mental Health		
	Clinical Epidemiologic and Prevention Research on Suicide	852	880
	Research on Prevention of Child and Adolescent Disorders	6,672	6,866
	Research on Prevention of Depressive/Anxiety Disorders	11,959	12,363
	Research on Prevention of Severe Mental Disorders	2,727	2,819
	Enhancing Health Through Stress Related/Behavioral Research	3,043	3,146
	Research on Organization and Delivery of Services to Prevent Mental Disorders/Promote Mental Health	2,496	3,559
	Other Prevention Research	13,778	14,250

Table 6 (continued)

(Dollars in Thousands)

6. MENTAL HEALTH AND MENTAL DISORDERS (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health (cont.)	**National Institute of Neurological Disorders and Stroke**		
	Understanding the Human Brain	5,782	5,968
Substance Abuse and Mental Health Services Administration	**Center for Mental Health Services**		
	Community Support Program	3,940	2,883
	Clinical Training	1,801	491
	Projects for Assistance in Transition from Homelessness	30,000	29,462
	AIDS Training	5,478	0
Health Care Financing Administration	Medicaid	1,300,000	1,577,000
	Medicare	38,000	45,000
Administration for Children and Families	**Administration on Children, Youth, and Families**		
	Child Abuse and Neglect Discretionary Program: Psychological Impact of Child Maltreatment	1,709	1,185
	Office of Community Services		
	Social Services Block Grant	+	+
	Office of Refugee Resettlement		
	Targeted Assistance	450	500
	Total	**$1,470,828**	**$1,749,587**

+Total amount spent on prevention category not known. In FY 1992, 23 States provided counseling and mental health services.

Table 6 (continued)

(Dollars in Thousands)

7. VIOLENT AND ABUSIVE BEHAVIOR		FY 1992 ACTUAL	FY 1993 ESTIMATED
Centers for Disease Control and Prevention	**National Center for Chronic Disease Prevention and Health Promotion**		
	Sex Offenses Program	$5,000	$5,500
	School Health Survey	30	600
	Youth Risk Behavior Survey	2,250	2,300
	National Center for Injury Prevention and Control		
	Case Control Study of Attempted Suicide	325	300
	Criminal History as a Predictor of Criminal Activity	197	0
	Current Adolescent Violence Prevention Curricula	200	15
	Community-Based Youth Violence Prevention Demonstration Projects	1,200	1,100
	Epidemiology and Cost of Firearms	0	272
	Estimating the Injury Prevention Effects of Criminal Justice Intervention	180	189
	Investigation of Children as Witnesses to Urban Violence	220	229
	State and Community-Based Injury Control Programs	5,000	4,200
	Youth Violence in Minority Communities	76	10
Indian Health Service	Direct/Indirect Mental Health Services	2,696	2,909
Health Resources and Services Administration	**Maternal and Child Health Bureau**		
	Maternal and Infant Health	777	500
	Adolescent Violence Prevention Project	132	140
	Children's Community Bridge	166	166
	PACT for Alternatives to Violence and Abuse	146	150
	Positive Emotional Capacity Enhancement (PECE) Training	150	150
	Adolescent Violence Prevention Resource Center	0	185
National Institutes of Health	**National Center for Research Resources**		
	Violent and Abusive Behavior Prevention Research	100	100
	National Heart, Lung, and Blood Institute		
	Effects of Cholesterol and Fat Reduction on Behavior	327	393
	National Institute of Nursing Research		
	Research in Violence and Abuse-Parents Children	468	500

Table 6 (continued)

(Dollars in Thousands)

7. VIOLENT AND ABUSIVE BEHAVIOR (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health (cont.)	**National Institute on Aging**		
	Violent and Abusive Behavior	284	290
	National Institute on Alcohol Abuse and Alcoholism		
	Heavy Drinking and Marital Violence in Newlyweds	200	0
	Hispanic Drinking and Intrafamily Violence	700	171
	National Institute on Drug Abuse		
	Violence Prevention Research	5,300	5,700
	National Institute of Mental Health		
	Research on Risk Factors and Prevention of Violence, Crime, and Delinquency and Their Sequelae	2,422	2,506
Office of the Assistant Secretary for Health	**Office of Minority Health**		
	Community Coalitions To Support Health and Human Services (Minority Males in Crisis)	4,910	4,910
Administration for Children and Families	**Administration on Children, Youth, and Families**		
	Basic and Medical Neglect State Grants	20,518	20,354
	Child Abuse and Neglect Evaluations of Treatment Approaches	1,299	814
	Children Justice Act State Grants	9,325	9,325
	Child Abuse: Community-Based Prevention State Grants	5,367	5,270
	Administration on Developmental Disabilities		
	Positive Behavior Management	360	630
	Office of Community Services		
	Social Services Block Grant	+	+
	Total	**$70,325**	**$69,878**

+Total amount spent on prevention category not known; in FY 1992, 50 States provided protective services to abused and neglected children and 36 States provided protective services to adults, including victims of family violence.

Table 6 (continued)

(Dollars in Thousands)

8. EDUCATIONAL AND COMMUNITY-BASED PROGRAMS		FY 1992 ACTUAL	FY 1993 ESTIMATED
Centers for Disease Control and Prevention	**National AIDS Information and Education Program**		
	National Partnership Programs	$6,768	$6,732
	National Center for Chronic Disease Prevention and Health Promotion		
	Community Health Promotion and Disease Prevention	150	150
	Preventive Health and Health Services Block Grant	21,000	21,000
	Public Health Practice Program Office		
	Health Professions Training and Education*	9,000	9,000
	Implementation of Healthy Communities 2000	300	300
Health Resources and Services Administration	**Bureau of Health Professions**		
	Health Professions (Nurses) Training and Education	12,267	12,271
	Health Professions (Public Health Professionals) Training and Education	3,382	2,513
	Bureau of Primary Health Care		
	Federal Employer Occupational Health	8,200	8,300
	Maternal and Child Health Bureau		
	Maternal and Child Health Block Grant	8,000	8,000
Indian Health Service	Health Education	6,300	7,673
	Community Health Representatives	39,000	41,040
	Public Health Nursing	18,350	20,310
National Institutes of Health	**National Center for Research Resources**		
	Educational and Community-Based Programs	1,008	990
	National Heart, Lung, and Blood Institute		
	Atherosclerosis Risk in Communities Study	5,331	12,485
	National Blood Resources Education Program	1,097	686
	National Institute of Child Health and Human Development		
	Educational and Community-Based Programs	13,700	14,000
	National Institute of Diabetes and Digestive and Kidney Diseases		
	Educational and Community-Based Programs	48	49
	National Institute of Mental Health		
	Public Information and Education: Prevention of Mental Disorders	148	187

Table 6 (continued)

(Dollars in Thousands)

8. EDUCATIONAL AND COMMUNITY-BASED PROGRAMS (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health (cont.)	**National Institute of Nursing Research**		
	Exploratory Centers for Health and Behavior Research	300	330
	Educational and Community-Based Programs	479	500
	National Institute on Aging		
	Alzheimer's Disease Education/Referral Center	900	783
	Alzheimer's Disease Community Outreach	853	857
	National Library of Medicine		
	National Library of Medicine Outreach Program	6,460	6,544
Office of the Assistant Secretary for Health	**Office of Disease Prevention and Health Promotion**		
	Market Research on Health Communication With Hard-to-Reach Youth	3	13
	Healthy People 2000 Consortium Planning	200	0
	National Health Promotion Program	2	0
	ODPHP National Information Health Center	487	1,200
	School Health Support	100	0
	Worksite Health Promotion Support	100	0
	Office of Minority Health		
	Minority Community Health Coalition	2,793	3,200
Administration for Children and Families	**Administration on Children, Youth, and Families**		
	Challenge Grant Program (Child Abuse Prevention)	5,367	5,270
	Child Abuse and Neglect State Grants Evaluation of Community-Based Prevention of Child Maltreatment	300	300
	Community-Based Prevention Demonstrations	1,699	1,800
	Administration on Developmental Disabilities		
	Basic State Grant Program	67,706	67,372
	University Affiliated Facilities	16,030	16,125
	Minority Health (Native American/Hispanic) and Cultural Diversity	107	97
	Total	**$257,935**	**$270,077**

*This program is jointly funded by CDC and HRSA.

Table 6 (continued)

(Dollars in Thousands)

9. UNINTENTIONAL INJURIES		FY 1992 ACTUAL	FY 1993 ESTIMATED
Agency for Health Care Policy and Research	Major Trauma Outcome	$697	$791
Centers for Disease Control and Prevention	**National Center for Injury Prevention and Control**		
	Emergency Medical Services	1	1
	Injury Control Program	10,993	14,766
	National Electronic Injury Surveillance System	125	100
	Second World Conference on Injury Control	205	100
	State and Community-Based Injury Control Programs	5,032	4,200
	State Injury Grantees	786	800
	Unintentional Injuries Evaluation	5	34
Health Resources and Services and Administration	**Maternal and Child Health Bureau**		
	Childhood Injury Grants	1,096	3,260
	Emergency Medical Services for Children	4,852	4,810
Indian Health Service	American Indian Injury Prevention Program Activities	600	2,100
National Institutes of Health	**National Center for Research Resources**		
	Unintentional Injury Prevention Research	100	100
	National Institute of Arthritis and Musculoskeletal and Skin		
	Hip Fractures Due to Osteoporosis	50	52
	Sports Injuries	40	42
	National Institute of Dental Research		
	Research on Orofacial Trauma	0	71
	National Institute on Drug Abuse		
	Unintentional Injuries	3,400	3,700
	National Institute of Mental Health		
	Mental Health Aspects of Prevention of Accidents and Unintentional Injuries	173	179
	National Institute of Neurological Disorders and Stroke		
	Head and Spinal Cord Injury	9,559	9,867

Table 6 (continued)

(Dollars in Thousands)

9. UNINTENTIONAL INJURIES (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health (cont.)	**National Institute of Nursing Research**		
	Prevention of Falls	121	150
	National Institute on Aging		
	Unintentional Injuries	5,360	5,521
Administration for Children and Families	**Administration for Children, Youth, and Families**		
	Challenge Grant Program	4,933	5,366
	Child Abuse and Neglect State Grants Evaluation of Community-Based Prevention of Child Maltreatment	300	300
	Community-Based Prevention Demonstrations	1,699	1,800
	Office of Community Services		
	Social Services Block Grant	+	+
	Total	**$50,127**	**$58,110**

+The total amount spent on prevention category is not known.

Table 6 (continued)

(Dollars in Thousands)

10. OCCUPATIONAL SAFETY AND HEALTH		FY 1992 ACTUAL	FY 1993 ESTIMATED
Centers for Disease Control and Prevention	**National Institute for Occupational Safety and Health**		
	Agricultural Safety and Health	$25,000	$25,000
	Alaska Field Station	250	250
	Carpal Tunnel Syndrome Among Meatpackers	250	250
	Construction Safety and Health	2,500	4,000
	Cumulative Trauma Disorders	750	750
	Elevated Blood Lead Levels	350	350
	Energy-Rated Research	250	250
	Healthy People 2000 OSH Work Group	50	50
	Mortality Industry and Occupation Coding	250	250
	National Coal Workers Autopsy Study	250	250
	National Occupational Health Survey of Mining	250	250
	National Traumatic Occupational Fatalities Database	250	250
	Noise-Induced Hearing Loss	750	750
	Occupational and Environmental Medicine Training Primary Care Physician*	236	236
	Occupationally Exposed Hepatitis B	250	250
	Occupational Fatality Surveillance	725	725
	Occupational Homicides	50	50
	Occupational Skin Disorders	250	250
	Respiratory Diseases	7,500	7,500
	SENSOR	2,500	2,000
	Small Business	250	250
	State-Based Activities in Occupational Health and Safety	25,000	25,000
	State Occupational Safety and Health Plan	250	250
	Surveillance of Health Care Workers	50	50
	Worksite Back Injury Programs	250	250
	Worksites with Mandated Employee Use of Occupant Protection Systems	50	50
	Worksite Programs	250	250
	Work-Related Stress	250	250

Table 6 (continued)

(Dollars in Thousands)

10. OCCUPATIONAL SAFETY AND HEALTH (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATE
Health Resources and Services Administration	**Bureau of Health Professions**		
	Health Professions Training and Education in Occupational Health	147	147
	Bureau of Primary Health Care		
	Federal Employee Occupational Health Programs	25,000	25,000
	Office of Rural Health Policy		
	Rural Research Center Program	450	450
National Institutes of Health	**National Center for Research Resources**		
	Occupational Safety and Health Research	100	100
	National Institute of Allergy and Infectious Diseases		
	Occupational Lung Disease	1,160	1,183
	Tuberculosis-Health Care Workers	165	172
	National Institute of Deafness and Other Communication Disorders		
	Noise-Induced Hearing Loss	523	544
	National Institute of Dental Research		
	Research on Occupational Safety and Health in Dentistry	49	49
	Total	**$96,605**	**$97,656**

Table 6 (continued)

(Dollars in Thousands)

11. ENVIRONMENTAL HEALTH		FY 1992 ACTUAL	FY 1993 ESTIMATED
Agency for Toxic Substances and Disease Registry	**Division of Health Education**		
	Environmental Health Education	$650	$600
	Provider Training Related to Hazardous Substance Exposure	200	200
	Risk Assessment Programs for State Health Agencies	5,300	5,000
	Division of Health Studies		
	Emergency Response Programs	700	500
	Relationship Between Hazardous Substance Exposure and Human Uptake	5,500	5,500
Centers for Disease Control and Prevention	**National Center for Environmental Health**		
	Childhood Lead Poisoning Prevention	20,702	29,095
	Environmental Health Training	100	100
	Lead Exposure	100	100
	Air Pollution	440	440
	Asthma	340	340
	Other Environmental Disease Prevention	1,530	1,530
	Hanford Thyroid Disease Study	1,591	1,579
Food and Drug Administration	**National Center for Toxicological Research**		
	Toxic Chemical Research	3,899	5,000
Health Resources and Services Administration	**Bureau of Health Professions**		
	Health Professions Training and Education	659	556
	Bureau of Primary Health Care		
	Water/Sanitation Projects Among Migrant and Rural People	350	350
	Maternal and Child Health Bureau		
	Prenatal and Infant Screening and Education	8,000	9,700
Indian Health Service	Sanitation Facilities Construction	75,000	75,000
	Environmental Health Support	33,000	36,000
National Institutes of Health	**Fogarty International Center**		
	Environmental Health Research	117	120
	National Center for Research Resources		
	Environmental Health Research	6,049	5,937

Table 6 (continued)

(Dollars in Thousands)

11. ENVIRONMENTAL HEALTH (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health (cont.)	**National Heart, Lung, and Blood Institute**		
	Asthma Research	5,000	5,120
	National Asthma Education Program	803	1,996
	National Institute of Dental Research		
	Research on Environmental Health in Dentistry	23	23
	National Institute of Diabetes and Digestive and Kidney Diseases		
	Other Environmental Health	35	38
	Toxicology	12	9
	National Institute of Environmental Health Sciences		
	Applied Toxicological Research and Testing Program	50,188	48,445
	Biological Response to Environmental Agents	62,609	64,061
	Biometry and Risk Assessment	9,905	7,629
	Environmental Health Centers	14,479	14,639
	Training	9,325	9,228
	Basic Research	60,697	62,000
	National Institute on Aging		
	Environmental Health	3,072	3,164
	National Library of Medicine		
	Toxicology Information Program	4,746	4,936
Administration for Children and Families	**Office of Community Services**		
	Rural Community Facilities	2,098	2,300
	Total	**$387,219**	**$401,235**

Table 6 (continued)

(Dollars in Thousands)

12. FOOD AND DRUG SAFETY		FY 1992 ACTUAL	FY 1993 ESTIMATED
Food and Drug Administration	New Drug Review Process*	$119,500	$122,000
	Center for Food Safety and Applied Nutrition		
	Enhanced Seafood Safety	43,700	43,000
	Monitoring the Food Supply for Pesticides	35,455	36,000
	Salmonella Enteritidis Information	450	0
	Office of Regulatory Affairs/Center for Drug Evaluation and Research		
	Postmarketing Surveillance	5,945	6,100
National Institutes of Health	**National Institute of General Medical Sciences**		
	Food and Drug Safety	2,652	2,725
	National Institute on Aging		
	Food and Drug Safety	2,960	2,960
	Total	**$210,662**	**$212,785**

*Funded by CDER, CBER, and ORA.

Table 6 (continued)

(Dollars in Thousands)

13. ORAL HEALTH		FY 1992 ACTUAL	FY 1993 ESTIMATED
Agency for Health Care Policy and Research	Clinical Decision-Making	$650	$506
	Outcomes of Dental Care	790	851
Centers for Disease Control and Prevention	**National Center for Prevention Services**		
	Dental Caries Prevention Community-Based Education	22	27
	Fluoride Research	10	19
	Oral Cancer Control and Prevention	21	21
	Oral Cancer Prevention and Control Education	15	49
	Oral Cancer Prevention—Smokeless Tobacco	5	5
	Oral Health Care: Risk Communication Information	182	5
	Oral Health Care: Training and Technical Assistance	429	479
	Oral Health Surveillance with WHO in Hispanic Communities	13	6
	Oral Health Surveillance in States	76	48
	Training to IHS and Tribal Personnel	14	14
	Training on Water Fluoride	39	46
	Water Fluoridation	109	11
Health Resource and Services Administration	**Bureau of Health Professions**		
	Health Professions Education	3,253	3,600
	Uncompensated Care—Dental Schools	4,900	5,000
	Bureau of Primary Health Care		
	Oral Health Promotion and Disease Prevention	17,129	20,000
	Maternal and Child Health Bureau		
	Maternal and Child Health Program	500	500
Indian Health Service	American Indian Dental Health	7,000	7,500
	Clinical Dental Caries Prevention	100	200
	IHS Oral Health Personnel	1,000	1,000
	Interagency Agreement with Administration for Children, Youth, and Families	125	125
	Oral Health Promotion and Disease Prevention	8,000	8,000
	Oral Health Survey	20,000	20,000
	Periodontal Disease Prevention	100	100

Table 6 (continued)

(Dollars in Thousands)

13. ORAL HEALTH (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health	**National Center for Research Resources**		
	Oral Health Research	1,008	990
	National Institute of Dental Research		
	Research on Epidemiology of Oral Health and Disease	3,626	3,626
	Research on Fluoride	3,364	3,364
	Research on Oral Cancer Etiology and Prevention	1,311	1,311
	Research on Other Oral Health	5,429	5,429
	Research on Prevention of Adult Teeth Loss	3,513	3,513
	Research on Prevention of Childhood Caries	4,030	4,030
	Research on Prevention and Control of Periodiodontitis	7,988	7,988
	Research on Protective Sealants	984	984
Administration for Children and Families	**Administration on Children, Youth, and Families**		
	Head Start	46,238	58,302
Health Care Financing Administration	Medicaid	627,000	881,000
	Total	**$768,973**	**$1,038,649**

Table 6 (continued)

(Dollars in Thousands)

14. MATERNAL AND INFANT HEALTH		FY 1992 ACTUAL	FY 1993 ESTIMATED
Agency for Health Care Policy and Research	Infant Health and Maternal Effectiveness and Outcomes Research	$ 4,163	0
	Maternal and Infant Health Care and the Disadvantaged	1,308	782
Centers for Disease Control and Prevention	**National Center for Chronic Disease Prevention and Health Promotion**		
	Infant Health Initiative Cooperative Agreements	4,359	4,350
	Infant Mortality Prevention	2,337	2,340
Health Resources and Services Administration	**Bureau of Primary Health Care**		
	Primary Care Centers	50,000	50,000
	Bureau of Health Professions		
	Health Professions Training and Education	8,394	8,230
	Maternal and Child Health Bureau		
	Maternal and Child Health Block Grant Program	92,496	96,000
	Maternal and Child Health Systems	27,000	27,939
	Maternal and Infant Health Data Collection	1,500	1,510
	One-Stop Shopping	1,030	502
	Prenatal Care	6,554	6,800
	Prenatal and Infant Screening and Education	9,700	9,700
	Substance Abuse Services for Pregnant Women	995	995
	Healthy Start	61,161	79,325
Indian Health Service	American Indian Maternal and Child Health	307,375	331,348
	Fetal Alcohol Syndrome	1,500	2,277
National Institutes of Health	**Fogarty International Center**		
	Maternal and Infant Health Prevention Research	902	927
	National Center for Research Resources		
	Maternal and Infant Health Prevention Research	5,041	4,948
	National Heart, Lung, and Blood Institute		
	Basic Biology of Cardiac Development: Animal Studies	840	0
	Basic Development Biology of the Vessel Wall	1,123	617
	Trial: Calcium To Prevent Preeclampsia	1,500	500
	Specialized Centers of Research in Respiratory Disorders of Neonates and Children	2,000	2,048

Table 6 (continued)

(Dollars in Thousands)

14. MATERNAL AND INFANT HEALTH (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health (cont.)	**National Institute of Arthritis and Musculosketal and Skin Diseases**		
	Infant Mortality Due to Inherited Connective Tissue Disorders	1,353	1,413
	National Institute of Child Health and Human Development		
	Maternal and Child Health	116,887	119,118
	National Institute of Dental Research		
	Research on Maternal and Infant Oral Health	341	341
	National Institue of Nursing Research		
	Low-Birth-Weight Prevention	2,175	2,300
	Nursing Care To Reduce Infant Mortality and Morbidity	2,592	2,800
	Women's Health Research	1,822	1,900
	National Institute on Drug Abuse		
	Infant Health	4,200	4,500
	National Institute of Diabetes and Digestive and Kidney Diseases		
	Maternal and Infant Health	53,000	54,500
	National Institute of Environmental Health Science		
	Environmental Effects on Early Pregnancy	7,000	7,000
	National Institute of Mental Health		
	Mental Health Factors Contributing to Infant Mortality/ Low Birth Weight	331	341
Substance Abuse and Mental Health Services Administration	Residential Treatment Programs for Pregnant and Postpartum Women	0	24,594
	Residential Treatment Program for Women and Children	10,000	24,044
Administration for Children and Families	**Administration on Children, Youth and Families**		
	Head Start Parent and Child Centers	31,200	32,448
	Office of Community Services		
	Social Services Block Grant	+	+
	Office of Refugee Resettlement		
	Medical Assistance	2,000	2,000
	Targeted Assistance	500	500

Table 6 (continued)

(Dollars in Thousands)

14. MATERNAL AND INFANT HEALTH (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
Health Care Financing Administration	Medicaid	5,000,000	5,600,000
	Total	**$5,824,679**	**$6,508,937**

+Total amount spent on prevention category not known. In FY 1992, 20 States provided services to unmarried parents and 34 States provided health-related services.

Table 6 (continued)

(Dollars in Thousands)

15. HEART DISEASE AND STROKE		FY 1992 ACTUAL	FY 1993 ESTIMATED
Agency for Health Care Policy and Research	Patient Outcomes Research and Clinical Guidelines Development	$8,270	$7,570
Centers for Disease Control and Prevention	**National Center for Chronic Disease Prevention and Health Promotion**		
	Cardiovascular Health Program	14	15
	Inter-Tribal Heart Disease Prevention Project	85	85
Indian Health Service	Inter-Tribal Heart Disease Prevention Project	75	75
National Institutes of Health	**Fogarty International Center**		
	Heart Disease and Stroke Prevention Research	347	358
	National Center for Research Resources		
	Heart Disease and Stroke Prevention Research	9,981	9,895
	National Heart, Lung, and Blood Institute		
	Cardiovascular Health Study: Risk Factors in the Elderly	4,338	6,258
	Child and Adolescent Trial for Cardiovascular Health: School-Based Risk Reduction Interventions	5,500	6,000
	Coronary Artery Risk Development in Young Adults: Prospective Epidemiological Stduy	4,945	895
	Initiative: Mechanisms Underlying Coronary Heart Disease in Blacks	2,295	2,566
	Initiative: Molecular Genetics of Hypertension in Humans and Animals	1,314	1,409
	Specialized Centers of Research in Thrombosis	2,000	2,048
	Specialized Centers of Research in Coronary and Vascular Diseases, Heart Failure, and Congenital Heart Disease	3,000	3,072
	Specialized Centers of Research in Hypertension	2,000	2,048
	Specialized Centers of Research on Arteriosclerosis	5,000	5,120
	Strong Heart Study: Cardiovascular Disease among Native Americans	500	512
	Trial: Postmenopausal Estrogen/Progestin Interventions: Effects on Cardiovascular Risk Factors	2,554	1,500
	Trial: Tamoxifen in Postmenopausal Women: Cardiovascular Risk and Events Coordinating Center	1,419	1,356
	Stroke Research	5,000	5,120

Table 6 (continued)

(Dollars in Thousands)

15. HEART DISEASE AND STROKE (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health (cont.)	**National Heart, Lung, and Blood Institute (cont.)**		
	Other Heart and Vascular Diseases Research	39,640	42,192
	Minority Research Training and Career Development Programs	3,000	3,072
	Preventive Cardiology Academic Award: Curriculum Development for Minority Students	850	732
	National Heart Attack Alert Program	474	544
	National High Blood Pressure Education Program	1,161	2,392
	National Institute on Aging		
	Cardiovascular Disease and Aging Research	20,136	20,740
	Postmenopausal Estrogen/Progestin Interventions*	38	39
	Stroke	3,835	3,950
	National Institute of Arthritis and Musculoskeletal and Skin Diseases		
	Postmenopausal Estrogen/Progestin Interventions*	1,500	75
	National Institute of Diabetes and Digestive and Kidney Diseases		
	Nutrition Research	36,950	38,200
	Postmenopausal Estrogen/Progestin Interventions*	3,200	3,300
	National Institute of Nursing Research		
	Reduction in Coronary Risk Factors	724	780
	National Institute on Drug Abuse		
	Heart Disease/Stroke	500	500
	National Institute of Mental Health		
	Research on Neuropsychological and Behavioral Aspects of Heart Disease and Stroke	327	330
	National Institute of Neurological Disorders and Stroke		
	Prevention of Strokes	7,822	8,074
Administration for Children and Families	**Office of Refugee Resettlement**		
	Medical Assistance	1,050	1,050
	Targeted Assistance	300	300
	Total	**$180,144**	**$182,172**

*Program is funded by more than one institute.

Table 6 (continued)

(Dollars in Thousands)

16. CANCER		FY 1992 ACTUAL	FY 1993 ESTIMATED
Agency for Health Care Policy and Research	Access to Preventive Services	$874	$622
	Guidelines on Mammography	1,196	969
	Patient Outcomes Research and Clinical Guideline Development	1,938	2,293
Centers for Disease Control and Prevention	**National Center for Chronic Disease Prevention and Health Promotion**		
	Cancer Mortality Prevention	1,300	2,500
	Early Detection of Breast and Cervical Cancer	40,000	58,000
Food and Drug Administration	**National Center for Toxicological Research**		
	Carcinogenic Chemical Exposure Research	10,000	10,000
Health Resources and Services Administration	**Bureau of Health Professions**		
	Health Professions Training and Education	516	511
Indian Health Service	Cancer Prevention Project for American Indians	100	100
	Cancer Surveillance and Prevention Program	650	650
	Reducing Community Risk for Cancer	5,000	5,000
	Women's Health Initiative	1,000	1,000
National Institutes of Health	**Fogarty International Center**		
	Cancer Prevention Research	350	361
	National Cancer Institute		
	AIDS	9,460	9,892
	Nutrition	59,609	60,298
	Environmental Health	285,000	290,000
	Foundations	305,953	305,980
	National Center for Research Resources		
	Cancer Prevention Research	13,006	12,764
	National Institute of Arthritis and Musculoskeletal and Skin Diseases		
	Ultraviolet Radiation and Skin Diseases*	750	1,092
	National Institute of Diabetes and Digestive and Kidney Diseases		
	Breast Cancer	4,080	4,200
	Other Cancer Research	9,920	11,800

Table 6 (continued)

(Dollars in Thousands)

16. CANCER (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health (cont.)	**National Institute of Mental Health**		
	Psychoneuroimmunology and Psychotherapeutic Treatments of Cancer	195	202
	National Institute of Nursing Research		
	Early Detection	78	100
	National Institute on Aging		
	Aging and Cancer	6,837	7,040
Administration for Children and Families	**Office of Refugee Resettlement**		
	Medical Assistance	2,000	2,000
	Targeted Assistance	200	200
Health Care Financing Administration	Medicaid	25,000	25,000
	Medicare	270,000	340,000
	Total	**$1,055,012**	**$1,152,574**

*Program is funded by more than one institute.

Table 6 (continued)

(Dollars in Thousands)

17. DIABETES AND CHRONIC DISABLING CONDITIONS		FY 1992 ACTUAL	FY 1993 ESTIMATED
Agency for Health Care Policy and Research	Community Models Project for Diabetes Prevention and Control	$ 742	$ 0
	Effectiveness of Medical Services for Diabetes	1,396	1,265
	Health Services for the Chronically Ill	481	666
	Patient Outcomes Research and Clinical Guideline Development: Biliary and Respiratory	1,256	1,040
	Patient Outcomes Research and Clinical Guideline Development: Cataracts	1,458	1,431
	Patient Outcomes Research and Clinical Guideline Development: Pain and Orthopedics	3,833	3,937
Centers for Disease Control and Prevention	**National Center for Chronic Disease Prevention and Health Promotion**		
	Academic Centers for Prevention Research	50	60
	State-Based Programs to Reduce the Burden of Diabetes	4,800	4,600
	National Center for Environmental Health		
	Fetal Alcohol Prevention	2,760	2,760
	Poverty-Associated Mental Retardation Prevention	1,130	1,130
	Prevention of Secondary Disabling Conditions in People with Existing Disabilities	1,065	6,050
	Spina Bifida Prevention Research	2,230	2,230
	State-Based Disabilities Prevention Programs	8,890	8,709
	Surveillance of Birth Defects, Mental Retardation, and and Other Childhood Disabilities	4,000	4,000
Health Resources and Services Administration	**Bureau of Health Professions**		
	Health Professions Special Projects	4,040	3,900
	Health Promotion/Disease Prevention	3,758	2,743
	Maternal and Child Health Bureau		
	Children with Special Health Care Needs Block Grant	164,000	167,000
	Children with Special Health Care Needs (SPRANS)	26,000	28,000
Indian Health Service	American Indian/Alaska Native Prevention, Control, and Treatment of Diabetes	6,500	6,700

Table 6 (continued)

(Dollars in Thousands)

17. DIABETES AND CHRONIC DISABLING CONDITIONS (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health	**Fogarty International Center**		
	Diabetes and Related Prevention Research	135	140
	National Center for Research Resources		
	Chronic Disabling Conditions Prevention Research	7,057	6,927
	Diabetes Prevention Research	13,006	12,764
	National Eye Institute		
	Cataract and Lens Program	8,523	7,972
	Corneal Diseases Program	9,246	8,661
	Glaucoma Program	7,392	6,245
	National Eye Health Education Program	1,428	1,272
	Retinal and Choroidal Diseases Program	28,754	29,072
	Strabismus, Amblyopia, and Visual Processing Program	9,530	9,705
	Visual Impairment and Its Rehabilitation Program	803	993
	National Heart, Lung, and Blood Institute		
	Chronic Obstructive Pulmonary Disease Research	6,000	6,144
	Cooley's Anemia Research	3,000	3,072
	Cystic Fibrosis Research	8,000	8,192
	Diabetes Research	3,000	3,072
	Sickle Cell Disease: Research, Education, Training and Service Programs	5,000	5,120
	National Institute on Aging		
	Alzheimer's Disease Research Centers	34,580	34,416
	Alzheimer's Disease Research	64,462	66,395
	Arthritis	3,148	3,242
	Diabetes	4,811	4,955
	Hypertension	6,584	6,781
	Osteoporosis	11,773	12,100
	Urinary Incontinence	3,720	3,832
	Other Disabling Conditions	1,367	2,069

Table 6 (continued)

(Dollars in Thousands)

17. DIABETES AND CHRONIC DISABLING CONDITIONS (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health (cont.)	**National Institute of Allergy and Infectious Diseases**		
	Occupational Safety and Health	1,032	912
	Diabetes	208	689
	Asthma	5,256	6,146
	Lyme Disease	1,708	1,753
	Other Chronic Disabling Conditions	14,021	15,729
	National Institute of Arthritis and Musculoskeletal and Skin Diseases		
	Arthritis and Other Rheumatic Diseases	33,044	34,498
	Bone Biology and Bone Diseases Research	7,792	8,134
	Impact of Rheumatic and Musculoskeletal Diseases on Minority Populations	9,609	10,032
	Low Back Pain	597	623
	Lupus Research	6,464	6,748
	Lyme Disease	1,897	1,980
	Muscle Diseases and Muscle Biology	2,203	2,300
	Musculoskeletal Diseases	4,963	5,181
	Osteoporosis and Bone Disease	15,715	16,406
	Osteoporosis Research/Extramural	10,936	11,417
	Research on the Benefits and Risks of Replacement Hormone Therapy in Post-Menopausal Women	427	445
	Skin Diseases	17,961	18,752
	National Institute of Deafness and Other Communication Disorders		
	Communication and Impairments or Disorders	100	104
	Deafness and Communications Disorders Research	5,058	5,265
	Early Assessment of Hearing Impairments in Infants	381	397
	Hearing Loss Among the Elderly	5,223	5,437
	Hearing Loss Detection and Intervention	985	1,023
	Therapeutic Advances in Hearing Aids	3,207	3,338

Table 6 (continued)

(Dollars in Thousands)

17. DIABETES AND CHRONIC DISABLING CONDITIONS (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health (cont.)	**National Institute of Diabetes and Digestive and Kidney Diseases**		
	Blood Diseases	54,400	56,200
	Cystic Fibrosis	19,062	21,500
	Diabetes Mellitis	184,500	194,700
	Gene Therapy Research	15,400	15,700
	Kidney Diseases	114,500	118,400
	Osteoporosis and Related Diseases	17,500	17,600
	Other Women's Health	45,697	46,346
	Urologic Diseases	26,700	34,300
	National Institute of General Medical Sciences		
	Diabetes and Chronic Disabling Conditions	179	184
	National Institute of Neurological Disorders and Stroke		
	Biological Research	20,126	20,774
	Huntington's Disease Research	324	334
	Increasing Years of Healthy Life	4,712	4,864
	Mechanisms and Causes of Diabetic Neuropathy	612	632
	Neurological Research in Minority Health	2,694	2,781
	Total	**$1,126,101**	**$1,180,986**

Table 6 (continued)

(Dollars in Thousands)

18. HIV INFECTION		FY 1992 ACTUAL	FY 1993 ESTIMATED
Agency for Health Care Policy and Research	**AIDS Cost and Utilization Survey**	**$ 2,971**	**$ 1,897**
	Effectiveness of Medical Services for AIDS patients	5,109	3,082
	Guidelines on HIV Infection	68	0
Centers for Disease Control and Prevention	**National AIDS Information and Education Program**		
	HIV Information, Education, and Preventive Services: National Clearinghouse	8,564	7,284
	HIV Information, Education, and Preventive Services: National Hotline	5,899	5,758
	HIV Information, Education, and Preventive Services: Regional, State, and Local Programs	12,344	11,232
	National Public Information Program	1,500	1,500
	National Center for Chronic Disease Prevention and Health Promotion		
	Coordination of Local Programs To Prevent HIV	4,511	4,468
	HIV Information, Education, Preventive Services: State Grants	3,708	3,621
	HIV Information, Education, Preventive Services: National Programs	15,506	15,331
	HIV Information, Education, Preventive Services: Program Training	6,915	6,755
	Perinatal AIDS Prevention Projects	17,989	22,776
	School Health Education Program	22,669	22,557
	National Center for Infectious Diseases		
	HIV Population-Based Research: Study of Cofactors	8,456	8,278
	HIV Population-Based Research: Sexual Transmissions	3,283	3,237
	HIV Population-Based Research: Blood Recipients and Donors	3,679	3,567
	HIV Population-Based Research: Hemophilia	905	864
	HIV Population-Based Research: Perinatal Infection	8,755	8,646
	HIV Population-Based Research: IV Drug Users	2,277	2,241
	HIV Risk Assessment and Prevention: Surveillance of HIV	64,297	63,712
	HIV Risk Assessment and Prevention: Surveillance of HIV-Related Diseases	23,865	23,676

Table 6 (continued)

(Dollars in Thousands)

18. HIV Infection (cont.)		FY 1992 Actual	FY 1993 Estimated
Centers for Disease Control and Prevention (cont.)	**National Center for Prevention Services**		
	HIV Community Demonstration and Other Projects	8,857	10,801
	HIV Counseling, Testing, Referral, and Partner Notification (CTRPN)	103,227	103,873
	HIV Health Education/Risk Reduction	19,625	15,500
	HIV Prevention Minority Populations	13,855	13,884
	HIV Prevention Public Information	9,707	8,900
	HIV Women and Infants	3,744	3,025
	CBOB	15,900	19,950
	HIV Information, Education, and Preventive Services: U.S. Conference of Mayors Grant	1,243	1,434
	National AIDS Minority Organizations Grant Program	6,792	8,530
	National Hemophilia HIV Preventive Program	2,450	2,330
	National Institute for Occupational Safety and Health		
	Technologies for HIV Prevention	2,995	2,920
	Public Health Practice Program Office		
	National Laboratory Evaluation Program	4,359	4,277
Food and Drug Administration	**Center for Biologics Evaluation and Research**		
	Blood and Blood Product Safety	17,352	16,900
	Diagnostic Reagents and Test Kits	9,400	8,500
	HIV Product Evaluation, Research, and Monitoring	8,676	9,800
	Medical Devices	12,291	11,400
	Center for Drug Evaluation and Research		
	Therapeutic Agents	24,583	25,900
Health Resources and Services Administration	**Bureau of Primary Health Care Administration**		
	Primary Care/Substance Abuse Linkage Demonstration	7,983	2,600
	Ryan White-Early Intervention (Title XXVI, Part C)	45,560	47,500
	Bureau of Health Professions		
	Health Professions Training and Education	18,641	19,357
	Bureau of Health Resources Development		
	Ryan White (Title XXVI, Part B)	5,000	6,000
	Ryan White HIV Emergency Relief Grant Program (Title XXVI, Part A)	15,000	22,500

Table 6 (continued)

(Dollars in Thousands)

18. HIV INFECTION (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
Health Resources and Services Administration (cont.)	**Maternal and Child Health Bureau**		
	Pediatric AIDS Health Care Demonstration Program	19,340	20,897
Indian Health Service	HIV Treatment and Prevention Services	3,170	3,303
National Institutes of Health	**Fogarty International Center**		
	AIDS Research Related to Prevention	879	873
	Risk Assessment	0	1,691
	National Center for Research Resources		
	HIV Infection Prevention Research	14,014	13,754
	National Heart, Lung, and Blood Institute		
	Epidemiologic Studies of Human Retroviruses in Volunteer Blood Donors	7,122	1,878
	Intravenous Anti-HIV Immunoglobulin for Preventing Maternal-Fetal Transmission of HIV Infection: Phase II Clinical Trial	1,500	1,200
	Transfusion Safety Study	6,749	7,019
	Other AIDS Research	10,694	10,000
	National Institute on Aging		
	Basic Science Research	1,072	1,114
	National Institute of Allergy and Infectious Diseases		
	AIDS Vaccine	53,845	55,183
	Counseling, Testing, and Health Education	367	186
	Other AIDS Prevention	32,286	44,220
	National Institute of Child Health and Human Development		
	HIV/AIDS	32,548	35,326
	National Institute of Dental Research		
	Research on HIV	3,347	3,347
	National Institute on Drug Abuse		
	HIV Infection	26,141	25,300
	National Institute of Diabetes and Digestive and Kidney Disease		
	HIV Research	7,172	6,446

Table 6 (continued)

(Dollars in Thousands)

18. HIV INFECTION (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health (cont.)	**National Institute of General Medical Sciences**		
	HIV Infection	170	175
	National Institute of Mental Health		
	HIV/AIDS Prevention Research	28,933	29,425
	National Institute of Nursing Research		
	Preventing High-Risk Behavior	471	500
	National Institute of Neurological Disorders and Stroke		
	Basic Neuro-AIDS Research	3,518	3,631
	National Library of Medicine		
	Risk Assessment and Prevention	1,057	1,101
Office of the Assistant Secretary for Health	**Office of Minority Health**		
	HIV/AIDS Education and Prevention Grant Program	1,287	100
Substance Abuse and Mental Services Administration	**Center for Substance Treatment Improvement**		
	HIV Infection	7,983	7,809
Administration for Children for Families	**Administration on Children, Youth, and Families**		
	Abandoned Infants Assistance	12,557	13,563
	Administration on Development Disabilities		
	Boston Children's Hospital, Pediatric AIDS Project for Children with HIV Infection	100	0
	Illinois Department of Children and Family Services, Coordinated Early Intervention	100	0
	New York Department of Health, Pediatric HIV/AIDS Case Management and Training	100	0
	North Carolina Lutheran Family Services, HIV/AIDS	99	0
	San Diego Department of Health, Pediatric HIV Risk Assessment Program for Children	100	0
	Total	**$857,231**	**$864,404**

Table 6 (continued)

(Dollars in Thousands)

19. SEXUALLY TRANSMITTED DISEASES		FY 1992 ACTUAL	FY 1993 ESTIMATED
Centers for Disease Control and Prevention	**National Center for Prevention Services**		
	Chlamydia Prevention	$ 1,819	$ 1,911
	Clinical Training	3,703	3,703
	Genital Herpes and Genital Wart Prevention	938	1,085
	Gonorrhea Prevention	2,869	2,861
	Prevention Education	1,074	1,076
	Prevention Grants	69,745	73,850
	Prevention Research	1,031	1,031
	Syphilis Prevention	4,473	4,939
National Institutes of Health	**National Center for Research Resources**		
	Sexually Transmitted Disease Prevention Research	1,008	990
	National Institute of Allergy and Infectious Diseases		
	STD Research	17,900	18,925
	National Institute of Dental Research		
	Research on Oral Health and AIDS	3,347	3,347
	National Institute on Drug Abuse		
	Sexually Transmitted Diseases	700	800
	Total	**$108,607**	**$114,518**

Table 6 (continued)

(Dollars in Thousands)

20. IMMUNIZATION AND INFECTIOUS DISEASES		FY 1992 ACTUAL	FY 1993 ESTIMATED
Agency for Health Care Policy and Research	Clinical Guideline Development: Pneumonia	$1,244	$1,176
Health Resources and Services Administration	**National Center for Infectious Diseases**		
	Infectious Diseases	400	483
	Infectious Disease in Infants	485	168
	Prevention in Child Day Care Centers	400	400
	Hepatitis B Virus Immunization Demonstration Project	200	250
	National Center for Prevention Services		
	Tuberculosis Control Program	14,168	73,600
	National Immunization Program		
	Infrastructure Enhancement	45,408	45,448
	Program Operations	37,760	53,261
	Vaccine Purchase	172,900	193,400
	Other	40,091	48,872
Food and Drug Administration	**Center for Biologic Evaluation and Research**		
	Promotion of Vaccines	15,000	22,400
Health Resources and Services Administration	**Bureau of Primary Care Health Care**		
	Programs in Community/Migrant Health Centers	15,000	15,000
	Bureau of Health Professions		
	Vaccine Injury Compensation Program	2,500	2,500
	Maternal and Child Health Bureau		
	Maternal and Child Health	500	500
Indian Health Service	Alaska Immunization Initiative	1,266	1,287
National Institutes of Health	**Fogarty International Center**		
	Research in Microbial Infections	150	148
	National Center for Research Resources		
	Immunization and Infectious Diseases Prevention Research	10,081	9,795
	National Heart, Lung, and Blood Institute		
	Vaccine-Related Research	4,761	4,957

Table 6 (continued)

(Dollars in Thousands)

20. IMMUNIZATION AND INFECTIOUS DISEASES (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
National Institutes of Health (cont.)	**National Institute of Allergy and Infectious Diseases**		
	Children's Vaccines	58,368	60,322
	Other Non-AIDS	15,977	16,577
	Other Prevention	10,347	9,960
	Tuberculosis	1,179	1,309
	National Institute for Child Health and Human Development		
	Immunizations and Infectious Diseases	4,833	5,700
	National Institute of Dental Research		
	Research on Immunizations and Infectious Diseases	1,288	1,288
	National Institute of General Medical Sciences		
	Immunizations and Infectious Diseases	197	202
	National Institute on Aging		
	Immunizations and Infectious Diseases	776	799
Administration for Children and Families	**Administration on Children, Youth, and Families**		
	Head Start	6,826	8,606
	Office of Refugee Resettlement		
	Medical Assistance	10,000	10,000
	Preventive Health	4,200	4,200
	Targeted Assistance	200	200
Health Care Financing Administration	Medicaid	120,000	135,000
	Medicare	40,000	45,000
	Total	**$636,505**	**$773,291**

Table 6 (continued)

(Dollars in Thousands)

21. CLINICAL PREVENTIVE SERVICES		FY 1992 ACTUAL	FY 1993 ESTIMATED
Agency for Health Care Policy and Research	Assistance to Minority Health Students and Schools	$3,207	$5,715
	Delivery of Health Care Services in Rural and Urban Areas	2,455	3,499
	Primary Care Research	6,444	11,847
Health Resources and Services Administration	**Bureau of Health Professions**		
	Health Professionals Student Assistance Programs	42,170	35,510
	Health Professions Training and Education	24,330	23,619
	Institutional Support for Minority Recruitment Initiatives	53,010	53,266
	Bureau of Primary Health Care		
	Community Health Centers	145,000	145,000
	Health Care for the Homeless	34,044	39,883
	Health Services to Residents in Public Housing	5,980	8,823
	Migrant Health Centers	15,000	16,000
	National Health Service Corps	5,300	5,486
	Native Hawaiian Health Care	2,327	2,976
	NHSC Recruitment Program	58,706	73,439
	Nursing Loan Repayment	1,440	2,044
	Outreach and Primary Care Services to Homeless Children	2,577	2,579
	Pacific Basin Initiatives	753	873
	Office of Rural Health Policy		
	Health Services Outreach Grants	5,000	5,000
	Office of Rural Health Policy	1,000	1,000
Indian Health Service	Indian Health Professions	25,000	26,092
National Institutes of Health	**National Heart, Lung, and Blood Institute**		
	Research and Public and Professional Education Programs Related to Improved Access to and Increased Use of Preventive Services	3,000	3,072
	National Institute of Dental Research		
	Research on Personnel and Training Needs	1,095	1,095

Table 6 (continued)

(Dollars in Thousands)

21. CLINICAL PREVENTIVE SERVICES (CONT.)		FY 1992 ACTUAL	FY 1993 ESTIMATED
Office of the Assistant Secretary for Health	**Office of Minority Health**		
	Disadvantaged Minority Health Improvement Act	4,565	3,198
Substance Abuse and Mental Health Services Administration	**Center for Substance Treatment Improvement**		
	Clinical Preventive Services	10,241	10,535
Health Care Financing Administration	Medicare	255,000	295,000
	Total	**$707,644**	**$775,551**

Table 6 (continued)

(Dollars in Thousands)

22. SURVEILLANCE AND DATA SYSTEMS		FY 1992 ACTUAL	FY 1993 ESTIMATED
Centers for Disease Control and Prevention	**Epidemiology Program Office**		
	Epidemiologic Investigations and Training	$13,000	$15,000
	National Center for Chronic Disease Prevention and Health Promotion		
	Nutrition Surveillance	1,550	1,726
	Youth Risk Behavior Survey	400	2,500
	National Center for Health Statistics		
	Annual Publication of Official Tracking Data and Related Information in *Healthy People 2000 Review*	240	242
	National Health Interview Survey	8,114	8,314
	National Health and Nutrition Examination Survey	8,731	7,370
	National Hospital Discharge Survey	970	1,057
	National Survey of Family Growth	865	320
	National Vital Statistics System	13,914	14,401
Health Resources and Services Administration	**Bureau of Health Professions**		
	Analytic Studies and Health Professions	1,760	644
	National Practitioner Data Bank	5,000	6,000
Indian Health Service	Surveillance and Data Systems	6,365	6,700
National Institutes of Health	**National Heart, Lung, and Blood Institute**		
	Systematic Collection, Analysis, Interpretation, Dissemination, and Use of Health Information	1,500	1,536
	National Institute of Dental Research		
	Research for Surveillance and Data Systems	271	271
	National Institute on Drug Abuse		
	Surveillance	800	900
	Total	**$ 63,480**	**$ 66,981**

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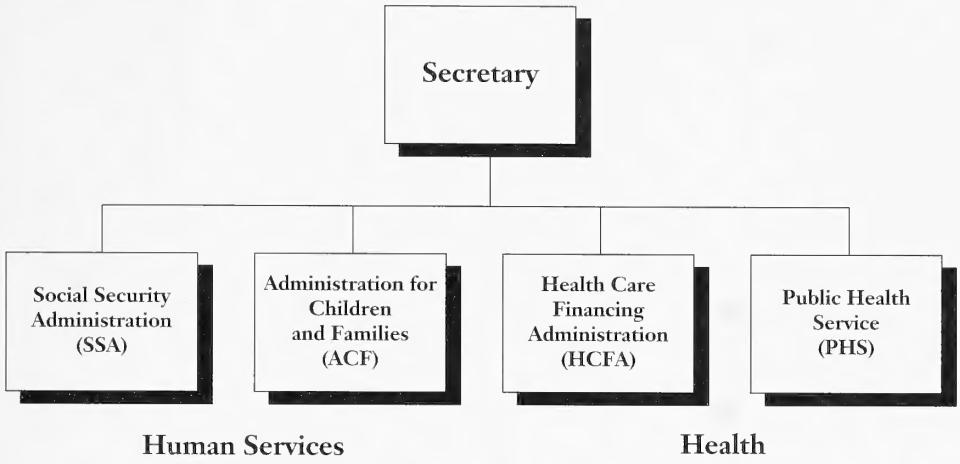

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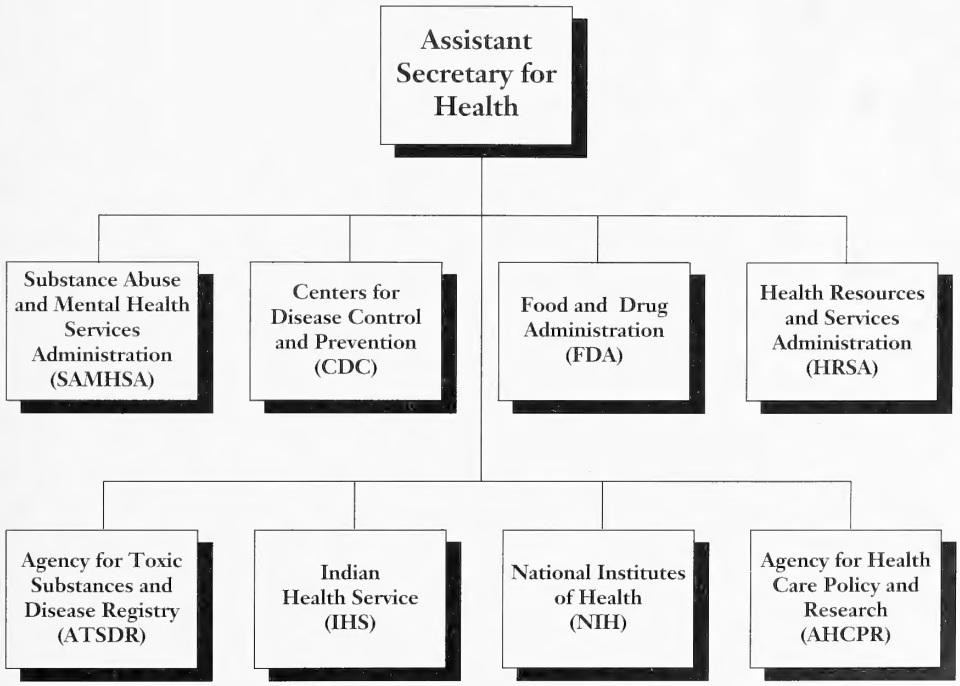

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